

1 SUPERIOR COURT OF THE STATE OF CALIFORNIA  
2 COUNTY OF LOS ANGELES, NORTH CENTRAL DISTRICT  
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5 STATE FARM GENERAL INSURANCE }  
6 COMPANY, } **ORIGINAL**  
7  
8 Plaintiff, }  
9  
10 vs. } No. EC053578  
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12 ELECTROLUX HOME PRODUCTS, INC., a }  
13 Delaware corporation; SEARS ROEBUCK }  
14 AND CO., a New York corporation; and }  
15 DOES One (1) through Twenty-Five (25), }  
16 inclusive, }  
17 Defendants. }  
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21 DEPOSITION OF CHRISTINE TALBOT WOOD  
22 Long Beach, California  
23 Friday, June 8, 2012  
24 Volume I  
25  
26 Reported by:  
27 RAMONA LUX  
28 CSR NO. 12846  
29 Job No. 147588  
30 PAGES 1 - 140  
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TO PROTECTIVE ORDER

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1 SUPERIOR COURT OF THE STATE OF CALIFORNIA  
2 COUNTY OF LOS ANGELES, NORTH CENTRAL DISTRICT  
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5 STATE FARM GENERAL INSURANCE }  
6 COMPANY, } **ORIGINAL**  
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10 vs. } No. EC053578  
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13 Delaware corporation; SEARS ROEBUCK }  
14 AND CO., a New York corporation; and }  
15 DOES One (1) through Twenty-Five (25), }  
16 inclusive, }  
17 Defendants. }  
18  
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20  
21 Deposition of CHRISTINE TALBOT WOOD, Volume I,  
22 taken on behalf of Plaintiff, at 310 Golden Shore,  
23 Fourth Floor, Long Beach, California, beginning at  
24 2:10 p.m. and ending at 6:39 p.m. on Friday, June 8,  
25 2012, before RAMONA LUX, Certified Shorthand Reporter  
No. 12846.  
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TO PROTECTIVE ORDER

EHP LARSON 073723

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ENF LARSON 073727

1 Long Beach, California, Friday, June 8, 2012  
2 2:14 p.m.  
3  
4 CHRISTINE TALBOT WOOD,  
5 having been administered an oath, was examined and  
6 testified as follows:  
7  
8 EXAMINATION  
9 BY MS. MILUSO:  
10 Q Hi. I'm Bonnie Miluso, attorney for plaintiff,  
11 State Farm General Insurance Company, in this case. Have  
12 you been deposed before?  
13 A I have.  
14 Q And so I'm not going to waste a lot of time  
15 giving you what happens during a deposition, but I will  
16 just remind you that we should not talk over each other,  
17 and so you should make sure that I ask my entire question  
18 before you start answering. I also talk fast, so if --  
19 if because I've spoken quickly or for any other reason  
20 you don't understand my question, please feel free to ask  
21 me to either slow down or to repeat the question or we  
22 can have it read back if you don't understand. Does that  
23 make sense?  
24 A It does.  
25 Q Okay. And again, just as a reminder, we need

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ENF LARSON 073726

1 to make sure we have all verbal replies, no head shaking  
2 or "uh-huh," those are hard to put down in the  
3 transcript.  
4 A All right.  
5 Q So please state your name and spell it for the  
6 record.  
7 A My name is Christine Talbot Wood, and the first  
8 name is C-h-r-i-s-t-i-n-e, Talbot is T-a-l-b-o-t, and the  
9 last name is W-o-o-d.  
10 Q And can you please state your qualifications.  
11 your degrees that you have.  
12 A I attended Stanford University and received a  
13 bachelor's degree in psychology with distinctions and  
14 honors, and that was in 1971 and then continued at  
15 Stanford to obtain a Ph.D in psychology in the area of  
16 experimental psychology.  
17 Q Do you have a degree in statistics?  
18 A I do not have a degree in statistics.  
19 Q Do you have any other certifications in  
20 statistics that -- outside of a formal degree?  
21 A I do not.  
22 Q Okay. I'm going to ask you a little bit about  
23 your history with this case. When were you first  
24 contacted by the attorney -- the attorneys for this case  
25 regarding your retention?

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ENF LARSON 073729

1 A That would have been in late April, early May  
2 2012.

3 Q Do you have a record of exactly when you were  
4 contacted?

5 A What I have is the date which we sent out a  
6 retention letter.

7 Q Would that -- I'm sorry, what's the date of the  
8 letter?

9 A It's dated May 3rd, 2012.

10 Q Okay. And do you know -- can you tell from  
11 your retention letter what day you were first contacted  
12 by counsel?

13 A I can't.

14 Q It would have been, obviously, before May  
15 3rd?

16 A Yes, shortly before that.

17 Q Okay. So could it have been, you know, May  
18 2nd?

19 MS. DIEI: Objection. Asked and answered.

20 THE WITNESS: Unless that's -- unless that's a  
21 weekend, but it would have been shortly before May 3rd.

22 BY MS. MILUSO:

23 Q Okay. Can you please describe what counsel  
24 talked to you about during the first contact with you.

25 A I don't have a specific recollection. As I

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EHP LARSON 073733

1 recall, we talked about the fact that there had been a  
2 dryer fire, that there were issues related to warnings  
3 that she would like to have addressed, and I believe also  
4 the schedule of activities was also mentioned.

5 Q What do you mean, the schedule of activities,  
6 what do you mean by that?

7 A The trial date.

8 Q Okay.

9 A For example.

10 Q And at that time, did you have an understanding  
11 of whether or not plaintiff had retained an expert?

12 A I don't recall if -- at what point, whether in  
13 that conversation, but I knew something about the experts  
14 that had been retained by the plaintiffs. The letter is  
15 dated May 8th, 2012, so that was shortly after this  
16 discussion, included reports of some of the experts.

17 Q Okay. I've asked you to bring your materials  
18 that you've relied upon and also any communications that  
19 you had with your attorneys. Have you brought those  
20 materials?

21 A I brought the transmittal letter. There may be  
22 some e-mails that I don't have here with me, that would  
23 have been transmissions of Dr. Doris's deposition and  
24 things like that, but I don't -- because I've been on the  
25 road, I haven't been able to print those out.

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EHP LARSON 073731

1 Q Okay. Well, I'm going to mark some of the  
2 things you brought here as exhibits and obviously we can  
3 give you back your originals at the end as long as  
4 opposing counsel agrees to make copies so that they can  
5 become the official record. So, first, the retention  
6 letter, can we mark that as Exhibit A. And this is the  
7 letter that you described as the retention letter sent on  
8 March 3rd, 2012. And would this be your agreement to be  
9 retained in this case; is that how you would describe  
10 this?

11 A Yes.

12 Q So I'll put this on as Exhibit A.

13 (Exhibit A was marked for identification  
14 by the court reporter and is attached hereto.)

15 MS. MILUSO: And you also described a letter  
16 of, I believe, May 8th, I'm going to mark that as Exhibit  
17 B.

18 (Exhibit B was marked for identification  
19 by the court reporter and is attached hereto.)

20 BY MS. MILUSO:

21 Q Can you please describe what is in this letter.

22 A This, I would describe as a letter that was  
23 sent from Ms. Diei to myself that listed various  
24 materials that -- documents that would have accompanied  
25 this letter. I would call this a transmittal letter.

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EHP LARSON 073732

1 Q Okay. And so as of May 8th there were the  
2 documents that you had received from Ms. Diei regarding  
3 this case?

4 A Yes.

5 Q Had you received any other e-mails prior to May  
6 8th from Counsel?

7 A I don't believe so.

8 Q Okay. Do you recall if you've received any  
9 other communications, any other e-mail or written  
10 communications from Counsel, since May 8th, since this  
11 and the accompanied documents that follow in Exhibit B?

12 A Oh, there might be some related to changes in  
13 time frames of this deposition.

14 Q Regarding scheduling of when your deposition  
15 would occur?

16 A Yes, scheduling.

17 Q Okay. You brought with you what I believe is a  
18 list of materials that you reviewed regarding this case,  
19 and one was originally attached to your report;  
20 correct?

21 A Yes.

22 Q Okay. I'm going to -- do you have a copy of  
23 your report with you?

24 A I do.

25 Q Okay. I'm going to mark that as Exhibit C.

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EHP LARSON 073733

1 (Exhibit C was marked for identification  
2 by the court reporter and is attached hereto.)  
3 BY MS. MILUSO:  
4 Q Okay. So I believe there was -- and I just  
5 want you to verify that this is the original report that  
6 you submitted, and it's dated June 4th; is that  
7 correct?  
8 A Yes.  
9 Q Okay. There is -- on page 9 of your report,  
10 can you please describe what this page is.  
11 A Yes, this is a -- list of materials, is the  
12 heading. It includes a list of those materials that were  
13 sent to me by client -- by my client, and then also  
14 additional materials that I reference in the body of my  
15 report.  
16 Q Okay. And you described prior to the beginning  
17 of this deposition today that you have an additional list  
18 of materials, and can you please tell me what's on that  
19 list and how it may differ from the list that was in your  
20 original report, Exhibit C.  
21 A Okay. This list, again, includes the list of  
22 materials that were provided to me by my client, and then  
23 in addition -- at the time of my report, and then in  
24 addition, there is a listing of four additional items  
25 that were sent to me after having prepared the report.

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EHP LARSON 073734

1 This list does not contain the items that were cited in  
2 my report that were not sent to me by the client.  
3 Q Okay. So the list that we're going to mark as  
4 Exhibit D is essentially a supplemental list to your  
5 report.  
6 (Exhibit D was marked for identification  
7 by the court reporter and is attached hereto.)  
8 BY MS. MILUSO:  
9 Q Can you tell me when you received the  
10 additional documents that weren't -- and that are at the  
11 end, those four notations, I believe -- I'll read them  
12 in, the Sears protection -- we'll just do it one by one,  
13 I apologize -- when you received the Sears protection  
14 agreements brochure, dated May 2011?  
15 A I can't give you a specific date. They're  
16 going to be -- the report is dated June 4th, obviously  
17 they're going to be this past -- during this week.  
18 Q So it would have been after June 4th?  
19 A It would have been after. I believe it's after  
20 the 4th or perhaps even contemporaneous with the 4th.  
21 Q Okay. There's also an extended warranty  
22 agreement screen shot for Alencosh Adamian, and do you  
23 recall if this was provided on the 4th or after the 4th;  
24 is that correct?  
25 A That's my memory.

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EHP LARSON 073735

1 Q Also a photograph of a Sears, quote unquote,  
2 800 number by Michael Stoddard and that, again, you  
3 received that after the 4th?  
4 A On or after the 4th.  
5 Q Okay. And the deposition of Alan Doris dated  
6 6/5/12, a rough and final version, I know that  
7 Mr. Doris's deposition was on the 5th, if I recall  
8 correctly so -- oh, yes, because it says the 5th, so you  
9 received it on or after the 5th?  
10 A Yes. That, we can nail down.  
11 Q Okay. You testified that you don't recall a  
12 specific conversation that you had with opposing  
13 counsel -- I mean, with counsel when you first were  
14 retained, but did they tell you what, you know, the scope  
15 of what they would like you to be testifying about in  
16 this case?  
17 A Well, I don't recall the specifics of the  
18 conversation but there was a specific conversation, and  
19 as I recall, what I was asked to address was related to  
20 warnings issues with respect to this incident.  
21 Q Okay. Have you testified or have you been  
22 retained in other cases regarding Electrolux dryers?  
23 A I have.  
24 Q In how many other cases?  
25 A I have testified in two previous Electrolux

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EHP LARSON 073736

1 dryer fire cases.  
2 Q And when you say "testified," does that mean  
3 you were deposed?  
4 A Yes.  
5 Q Have you ever testified in trial?  
6 A No.  
7 Q Okay.  
8 A Well, not in any dryer fire cases.  
9 Q Okay. Can you tell me what -- the two cases  
10 that you've -- where you've testified at least as a  
11 deponent or an expert witness prior to trial, can you  
12 please tell me the name of those two cases.  
13 A Yes. One is -- well, it's -- the name of the  
14 family that -- whose dryer was involved is Slabach and  
15 the other is Powers.  
16 Q Do you know who the plaintiff is in the Slabach  
17 case, if it's an insurance company?  
18 A Yes. These were both -- they both involve  
19 insurance companies.  
20 Q Do you think they both involve the State Farm  
21 General Insurance company?  
22 A I don't know.  
23 Q Okay. And can you tell me who your client is  
24 in those cases, in the Slabach case? Would it be fair to  
25 assume that your client is Electrolux Home Products, at

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EHP LARSON 073737

1 least one of your clients in that case?

2 A That would be the entity that likely is being

3 represented by my client.

4 Q And who is your client in the Slabach case?

5 A I can't remember the name of the law firm.

6 Q Do you know what state they're in?

7 A I don't.

8 Q Okay. Riley Bennett & Egloff, does that ring a

9 bell in Indiana. Mary Reeder (phonetic), does her name

10 ring a bell? What about Sarah MacGill, does she ring a

11 bell?

12 A Those names do ring a bell.

13 Q So it's possible that these are your clients in

14 that case, the Riley Bennett & Egloff firm?

15 A It's possible. I just don't have a very clear

16 recollection, obviously.

17 Q Okay. And did you write a report in that case,

18 in the -- what you call the Slabach case?

19 A I believe I did.

20 Q I'm going to hand you what I'm going to mark as

21 Exhibit E. I apologize, it's not stapled and it is

22 two-sided.

23 (Exhibit E was marked for identification

24 by the court reporter and is attached hereto.)

25 BY MS. MIZUGO:

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EHP LARSON 073738

1 Q Does this look like your report from the

2 Slabach case?

3 A It does.

4 Q Okay. So were you retained in the Slabach case

5 to also talk about warnings issues?

6 A Yes.

7 Q On behalf of Electrolux?

8 A I was.

9 Q Okay. Do you recall if you were -- if your

10 client represents any other entities in the Slabach case?

11 For instance, let's say Sears Roebuck & Company or

12 another company?

13 A I don't recall.

14 Q Okay. You also mentioned a Powers case, and

15 can you tell me if you recall who the plaintiff is in the

16 Powers case?

17 A It's an insurance firm.

18 Q Okay. Do you know who your client is in the

19 Powers case? Let's make it easier, based on what you've

20 said earlier, this would be another case where your

21 client is the -- are the attorneys for Electrolux Home

22 Products?

23 A I think -- they are going to be representing

24 Electrolux in the matter.

25 Q Do you recall if there's another entity like a

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EHP LARSON 073739

1 Sears Roebuck & Company that your client also represents

2 in the Powers case?

3 A I don't recall.

4 Q Okay. Have you issued reports in the Powers

5 case?

6 A I believe I did.

7 Q Or a report?

8 A I believe I did.

9 Q Okay. Have you formed any opinions in this

10 case based on your review of the materials?

11 A Yes.

12 Q Okay. And are those opinions set forth in your

13 report?

14 A They are.

15 Q Okay. Can you please tell me what your

16 opinions are in this case.

17 A The overarching primary opinion is that warning

18 and safety information about factors associated with

19 dryer fires and cleaning provided by Electrolux were

20 reasonable and adequate in terms of location and

21 content.

22 Q Do you have any other opinions?

23 A That's the broad overriding opinion, and there

24 may be -- within the body of the report, there may be

25 subopinions and there may be things that come up in the

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EHP LARSON 073740

1 deposition today, but those certainly are the ultimate

2 opinions I reached.

3 Q Okay. Why don't you describe to me how you

4 came to those opinions. What is the basis for those

5 opinions that the warnings are adequate?

6 A The -- what I examined was the -- first, the

7 labeling that accompanies the dryer and labeling that is

8 on the dryer.

9 Q Okay. And do you have copies of those labels

10 that you have reviewed with you?

11 A Yes.

12 Q Okay. Can you please get them out of your

13 materials.

14 A They are in the tabs -- they are related to the

15 first four tabs of this binder.

16 Q Okay. Well, let's just start going through

17 them so we can mark them. Maybe we'll do the first tab.

18 Can you describe the name of that tab.

19 A This tab is labeled "Dryer Warning Labels and

20 Checklist."

21 Q Okay. So I'm going to -- let's look at that

22 first one, I believe it's the checklist. Can we take

23 that out of the your binder; is that okay?

24 A Sure.

25 Q I'll try not to mess it up.

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EHP LARSON 073741

1 A Okay.

2 Q Thank you.

3 A That's the set that's from there.

4 Q Okay. Well, I'm going to mark these all

5 together as Exhibit F, and we'll just call the first page

6 here F-1, so we can kind of keep them together for you,

7 it might be easier for later.

8 (Exhibit F was marked for identification

9 by the court reporter and is attached hereto.)

10 BY MS. MILUSO:

11 Q Why don't you tell me what -- at least what you

12 believe this document represents.

13 A And by document, are you thinking that this is

14 going to be F-1 and that's F-2?

15 Q Yes. So just F-1. can you describe what your

16 understanding of what that represents?

17 A Yes. My understanding is that this is -- it is

18 entitled "Follow this checklist for best drying

19 performance," and my understanding is that this is a

20 document that is placed on the dryer and is available

21 for -- it's on the exterior of the dryer and can be a

22 temporary label.

23 Okay. So do you know in -- where -- when you

24 say "a temporary label," is that one that can be removed;

25 is that correct.

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EHP LARSON 073742

1 A It is. It is one that is removable.

2 Q So do you know whether this checklist that

3 you're seeing in F-1, whether this was on the dryer that

4 the insureds in this case, we'll call them the

5 Haroutounyans, H-a-r-o-u-n-t-o-u-n-y-a-n-s, Haroutounyans.

6 Do you know if this checklist was on the Haroutounyans

7 dryer?

8 A I haven't seen a photograph with it being

9 present in the pictures that I've looked at

10 postincident.

11 Q Okay.

12 A And I haven't seen testimony with respect to

13 it. My understanding is that it's the custom and

14 practice for Electrolux dryers to arrive with this

15 checklist on them.

16 Q Okay. But we -- but based on materials you've

17 reviewed, you don't know if this checklist was on the

18 dryer that the Haroutounyans purchased when they

19 purchased it?

20 A I don't have any independent, specific

21 knowledge beyond that this is the practice that

22 Electrolux typically follows.

23 Q Okay. And in this case, it's your

24 understanding that the dryer was actually sold by Sears;

25 is that correct?

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EHP LARSON 073743

1 A Yes.

2 Q Okay. Do you know whether Electrolux would

3 have put that temporary label or checklist on the product

4 or whether Sears would have done that?

5 A I don't know.

6 Q Okay. And do you know how it was affixed to

7 the dryer?

8 A My understanding is that it is typically

9 taped.

10 Q Do you know what kind of tape is used? I'm

11 sorry that that sounds petty, but I want to know how this

12 was affixed, if you know.

13 A I don't know what type of tape is used.

14 Q Do you know whether that's taped on the outside

15 or the inside?

16 A My understanding is it appears taped on the

17 outside of the dryer.

18 Q What's the basis for that --

19 A This is testimony, I believe, I've read from

20 Carl King.

21 Q Okay. And that was in a different case?

22 A I believe it is, yes.

23 Q Okay. And Carl King, if I am correct, is an

24 employee of Electrolux?

25 A Yes.

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EHP LARSON 073744

1 Q And he works as a safety engineer; is that

2 correct, based on your understanding?

3 A I don't know exactly what his title is.

4 Q Have you ever talked to Mr. King directly?

5 A I have.

6 Q In what circumstances have you spoken to him?

7 A It was related to a different incident that was

8 about to have some kind of a hearing.

9 Q Do you remember if it was either the Slabach or

10 the Powers case?

11 A I don't believe it was either one.

12 Q Well, let me ask you a question. Has

13 Electrolux itself ever retained you either as a

14 consultant or an expert outside of what you described to

15 me today, this case, the Slabach case and the Powers

16 case, has Electrolux ever retained you?

17 A In -- directly, as opposed to going through an

18 attorney, is that the question?

19 Q Yes.

20 A Not that I recall.

21 Q But you've spoken to Mr. King directly?

22 A Yes.

23 Q And can you tell me about the content of the

24 conversation -- have you spoken to him more than once or

25 was it just one occasion?

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EHP LARSON 073745



1 A One occasion. It was just before a hearing was  
2 about to go forward that next day.

3 Q Okay.

4 A Or perhaps it was the day after, and in the  
5 end, the -- someone got ill and wasn't able to make the  
6 hearing. The hearing then got postponed and in the end,  
7 it didn't take place.

8 Q So what was your -- can you describe the  
9 content of your conversation with Mr. King in that  
10 instance?

11 A Well, this has now been a while ago.

12 Q When was it?

13 A Not 2012.

14 Q Was it 2011?

15 A That's what I'm trying to see if I can -- I'm  
16 working my way back.

17 Q Okay.

18 A I'm having trouble finding anything to hang it  
19 on.

20 Q Well, let me ask you a specific question, maybe  
21 that will refresh your recollection. Did he talk to you  
22 about the warnings on an Electrolux product?

23 A It was a general topic but not specific to any  
24 particular dryer, that I recall.

25 Q Was it related to a specific -- I want to make

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EHP LARSON 073746

1 it clear, it wasn't just an independent consulting  
2 related to a specific case?

3 A Yes. I was there related to a specific case.

4 Q And it was a case in litigation?

5 A Yes.

6 Q Okay. And do you remember if it was regarding  
7 a dryer?

8 A It was. It was a dryer-related case, yes.

9 Q Okay. And during that conversation, did you  
10 get an understanding of the nature of the case? Was it a  
11 dryer fire case, do you recall?

12 A It was a dryer fire case.

13 Q Okay. And you never testified in that case  
14 though?

15 A Yes, as far as I know, no arbitration went  
16 forward.

17 Q And you weren't deposed in that case either?

18 A And my understanding was there wasn't going to  
19 be -- there was never a plan for a deposition.

20 Q Did you write a report in that case?

21 A I don't recall having written a report.

22 Q Okay. So you described the basis of your  
23 opinions partly on what you've reviewed, on what you  
24 believe were the labels or the warnings on the product at  
25 the time and the use and care guide that came with it and

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EHP LARSON 073747

1 all the materials that came with it?

2 A Yes.

3 Q So what is on this checklist that is F-1 that  
4 you describe as an adequate warning of the risks  
5 associated with this dryer?

6 A Well, this piece of information covers the need  
7 to clean the lint filter. It also describes the process  
8 of what a dryer does and factors that can impact its  
9 performance, such as the length of duct runs and things  
10 like that; then in addition, there is a reference to the  
11 type of vent system that attaches the dryer to the wall  
12 in terms of that venting portion and the appropriate kind  
13 of component to have there.

14 Q Okay.

15 A And it specifically mentions the fact that lint  
16 can restrict air flow and become a fire hazard.

17 Q Okay. Does it -- on that checklist that you're  
18 reading, does it mention anything about the need to  
19 clean -- have an authorized servicer clean your dryer or  
20 service it every 18 months; is that mentioned on this  
21 checklist?

22 A This one does not have that information on this  
23 label. It does say to read and follow all installation  
24 instructions and to read the owner's guide and operating  
25 instructions.

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EHP LARSON 073746

1 Q Okay. But it doesn't say specifically on the  
2 checklist itself to --

3 A That's correct.

4 Q Okay. Let's go to what I've marked as F-2 from  
5 your first tab and I think it says -- it's labeled "Dryer  
6 Warning No. B1318241" and I think it has a date on it,  
7 January 12th, 1999. And why don't you tell me how this  
8 is the basis of your opinion that there were adequate  
9 warnings?

10 A The -- and I've talked about these all in terms  
11 of location and content -- this label is one that is on  
12 the dryer itself and tends to be permanently there. The  
13 warning specifically mentions and identifies fire as a  
14 hazard and potential for personal injury. It covers a  
15 number of different aspects of what consumers can do to  
16 reduce the chance of fire occurring. It includes  
17 cleaning the lint screen before or after each load, but  
18 it has a number of other important pieces of information  
19 about don't dry things that are made of foam, rubber or  
20 rubber-like products and concerns about flammable and  
21 combustible liquids and then identifies as a separate  
22 caution that a clothes dryer produces combustible lint,  
23 must be exhausted outdoors, care should be taken to  
24 prevent the accumulation of lint around the exhaust  
25 opening and the surrounding area, and then there's

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EHP LARSON 073749

1 information about specifically a telephone number that  
2 can be called 24 hours a day, seven days a week to  
3 schedule a Sears repair service, so this would be a label  
4 that's directly permanently on the dryer.

5 Q Okay. Based on what you just read and what we  
6 can see here on Exhibit F-2 there's nothing specifically  
7 on this that instructs the purchaser or the consumer to  
8 have an authorized servicer come out every 18 months to  
9 clean the inside of their dryer; is that correct?

10 A That's correct, that specific information is  
11 not there.

12 Q Okay. And I'm going to give you F-3, which is  
13 called "Label Clearance B1317832" and it has a little  
14 "Rev" for F, which I think is revision F or revised F but  
15 there is an F there, and it is dated August 13th, 1998.  
16 I'm going to show that to you. Can you tell me what  
17 warning that includes?

18 A This warning specifically states "To reduce the  
19 risk of fire, this appliance must be exhausted outdoors,  
20 see installation manuals" -- "installation instruction  
21 manuals," and then it has a table that identifies the  
22 minimum installation clearances in inches depending on  
23 where the dryer is installed within a home or some other  
24 location, and that is a label, again, that is on the  
25 dryer itself.

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ENP LARSON 073750

1 Q Okay. And again, that label doesn't say that  
2 you need to have it cleaned every 18 months?

3 A That's correct.

4 Q Okay.

5 A And I'm not -- I am not going to -- what I'm  
6 reading into the record is not everything that's on the  
7 label. This information is presented again in Spanish.

8 Q Sure, I respect that, we'll consider it based  
9 on everything that's on the label, not just what you  
10 read, and I'm going to give you what I'm marking as F-4  
11 and that's "Label-Prefabricated Home/Closet B" --  
12 "Home" -- I'm sorry, "Home/Closet, B1314637, Rev,"  
13 whatever that means, "D." April 12th, 1995 is the date  
14 and I'll hand that to you, and I think this is a small  
15 label, and again, these are all things that would have  
16 been affixed to a dryer I'm assuming?

17 A Yes, my understanding is that this is another  
18 label that's affixed to the dryer.

19 Q Okay.

20 A This label says, "This dryer is suitable for  
21 pre-manufactured home installation" and again refers  
22 people to "see installation instructions for installation  
23 standard and closet and exhaust kit part numbers" and  
24 then it's also covered in the other languages.

25 Q And again, from what I've reviewed it doesn't

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ENP LARSON 073751

1 have anything, at least that we can tell, that says it  
2 should be cleaned every 18 months; is that correct?

3 A It does not specifically say that on that  
4 label.

5 Q Okay. So is it your understanding that these  
6 labels were -- or would have been -- or should have been  
7 affixed to the dryer at issue in this case, the  
8 Haroutounyans' dryer?

9 A Yes.

10 Q And has your client told you this is the  
11 totality of what would have been affixed and all of the  
12 stickers that were on the dryer in this case?

13 A My understanding is that those are all the  
14 warning-related stickers.

15 Q Okay. And in this case obviously there was a  
16 fire so certain labels that may have been affixed may  
17 have burned off, so I just want to make sure that it has  
18 been represented to you that this was everything that  
19 should have been on the dryer at some point regarding  
20 warnings?

21 A Regarding warnings, yes.

22 Q Okay. I just wanted to make sure that's clear.  
23 So none of these, though, say that you need to clean your  
24 dryer every 18 months, that's not on any of the labels  
25 that would be affixed to the dryer; is that correct?

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ENP LARSON 073752

1 A That's correct.

2 Q Okay. And your opinion is that the warnings  
3 were adequate. So do you think that a consumer should be  
4 warned about a need to clean something every 18 months in  
5 order to avoid fire? Do you think that would be a fair  
6 statement that consumers should be warned of any cleaning  
7 they need to do to avoid fire?

8 A If that is something that a manufacturer  
9 believes to be important, then that is something that  
10 consumers should then be warned about.

11 Q Do you think something as important as the risk  
12 of fire should be warned on the machine and -- in a  
13 permanent label that they can see?

14 A The -- most of the information that we've been  
15 talking about related to the labels that -- F-1 through  
16 F -- well, maybe not F-4, but F-1 through F-3 relate to  
17 consumers about fire, and so that is very much the  
18 emphasis of these labels in terms of content.

19 Q Okay. If we were to assume in this case that  
20 the lint accumulation that either caused or contributed  
21 to the fire was in an area that the consumer could not  
22 see, does that change your opinion at all regarding  
23 whether the on-product labels were adequate?

24 MS. DIEL: Objection. Incomplete  
25 hypothetical.

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ENP LARSON 073753



1 BY MS. MILUSO:  
2 Q You can answer, if you can.  
3 A In -- assuming that these are the labels on the  
4 product and that it's not the only information that is  
5 provided with the product, with the dryer, there's other  
6 information that these labels refer to, that all of this  
7 information together represents information that's  
8 adequate and reasonable with respect to issues related to  
9 this case and issues related to your question.  
10 Q Okay. Is it your belief that not everything  
11 needs to be put on an on-product label?  
12 MS. DIEHL: Objection. Vague and ambiguous.  
13 BY MS. MILUSO:  
14 Q Do all -- I'll rephrase. Do all warnings need  
15 to be on on-product labels?  
16 MS. DIEHL: Objection. Vague and ambiguous,  
17 overbroad.  
18 BY MS. MILUSO:  
19 Q You can answer, if you can.  
20 A If -- the question really relates to manuals  
21 that go with equipment versus -- that may contain safety  
22 information and warnings that are placed on the equipment  
23 itself, typically for most products, all of the  
24 information that's contained in a manual is not placed on  
25 the product, so a subset of that information is -- as a

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EHP LARSON 073754

1 typical practice is placed on the -- on a product, on the  
2 equipment, on an appliance, and more information than --  
3 more extensive information is provided in the manual.  
4 Q Okay. And based on your experience as an  
5 expert and your research, how -- what things -- based on  
6 your experience, what warnings need to be on products,  
7 what types of warnings need to be on a product as opposed  
8 to a user guide?  
9 MS. DIEHL: Objection. Vague and ambiguous,  
10 overbroad.  
11 MS. MILUSO: If you can answer based on your  
12 experience.  
13 THE WITNESS: Well, there are all kinds of  
14 debates about that.  
15 BY MS. MILUSO:  
16 Q I just want to know your opinions on it.  
17 MS. DIEHL: Same objections.  
18 THE WITNESS: One of the things to consider is  
19 what the guidance might be in a standard or even in some  
20 cases regulations that suggest locations for information,  
21 so that's something that I would look toward and consider  
22 in making that decision. Other instances relate to what  
23 kinds of information might be -- might be most directly  
24 related to maybe the greatest number of potential  
25 incidents or the severity of those incidents or the

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EHP LARSON 073755

1 likelihood of those incidents, so sometimes you make  
2 decisions based on that. Other times you might make a  
3 decision based on whether a general population of users  
4 might already know about that hazard, and in that case,  
5 you might not warn about it at all.  
6 Q Okay.  
7 A So there are lots of different factors that  
8 relate to making a decision.  
9 Q Okay. So the -- but it's your belief based on  
10 what you know about this case and the circumstances and  
11 the mechanism of the fire in this case that as far as  
12 on-product labels these were sufficient and adequate?  
13 A Yes.  
14 Q So -- and I'll just refer to your report, which  
15 I think we have as Exhibit A, but I'm looking -- no, I'm  
16 sorry, it's Exhibit C, okay. So that in this case there  
17 was -- I'm sorry, I just want to make sure that I have  
18 the basis for your opinions on what happened in the fire  
19 so I'm going to find that here. Hold on. Why don't you  
20 just describe for me, what is your understanding of what  
21 caused this fire. I know that you're not an expert in  
22 the area of cause, but based on your review of the  
23 materials, what do you believe caused the fire?  
24 MS. DIEHL: I'll object on the grounds that it  
25 calls for an expertise that we are not providing this

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EHP LARSON 073756

1 witness for.  
2 MS. MILUSO: And I'm not asking her on that  
3 basis.  
4 So you can answer just on your review of the  
5 materials what you understand to be the cause of the  
6 fire. I'm not going to hold you to it as what was the  
7 actual cause, I know you're not an expert on that.  
8 THE WITNESS: My understanding -- so yes, I'm  
9 absolutely not an expert in fire cause and origin and  
10 those aspects or how to design a clothes dryer, but my  
11 understanding of the allegations here is that lint built  
12 up in some part of either the dryer itself or the exhaust  
13 system of the dryer and that that was ignited.  
14 BY MS. MILUSO:  
15 Q Okay. And so based on -- and obviously there  
16 was a fire in this case; right? I mean, we can assume --  
17 let's assume there was a fire that started in the dryer.  
18 A Yes.  
19 Q Okay. And I believe for purposes of the rest  
20 of the deposition, let's assume that the fire started in  
21 the dryer because that's what the engineering expert for  
22 your client has said, so let's start with that  
23 understanding so we can have a meaningful pursuit in the  
24 rest of this deposition. So either the lint in the  
25 inside of the dryer or in the exhaust vent caused the

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EHP LARSON 073757

1 fire; is that your understanding of the cause in this  
2 case?

3 MS. DIEL: Objection. Beyond the scope of her  
4 expertise.

5 But you can answer.

6 THE WITNESS: My understanding is that it was  
7 the lint that was ignited.

8 BY MS. MILUSO:

9 Q Okay. And do you know where the lint ignited,  
10 which portion of the lint, whether in the exhaust vent or  
11 in the --

12 A I don't have any independent knowledge of  
13 that.

14 Q Okay. Do you know if the lint was in an area  
15 that you could -- that a regular consumer could see?

16 A My understanding of the allegation is that it's  
17 not in a place that a consumer could see.

18 Q Okay. Let's get to the operating instructions  
19 or the owner's manual that came with this product. Do  
20 you have those, were those provided to you?

21 A I do.

22 Q Okay. Let's mark as Exhibit G what you have  
23 behind your tab.

24 A Operating instructions.

25 Q There you go, okay.

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EHP LARSON 073758

1 (Exhibit G was marked for identification  
2 by the court reporter and is attached hereto.)

3 BY MS. MILUSO:

4 Q Did your client tell you that these are the  
5 operating instructions that accompanied the dryer in this  
6 case?

7 A Yes.

8 Q Can you tell me what warnings are contained in  
9 these operating instructions, if any?

10 A There are --

11 Q Regarding fire, risk of fire, let's do that.

12 A There is, first, the reminder to read your  
13 dryer use and care guide, then it says specifically, "To  
14 reduce the risk of fire, electric shock, or injury to  
15 persons, read the important safety instructions in your  
16 dryer use and care guide before operating this  
17 appliance." There are -- in addition to information  
18 about the controls and use of the controls, there's  
19 information warning people not to use heat to dry certain  
20 kinds of items.

21 Q Is there anything on those -- what did we call  
22 them, operating instructions, Exhibit G, that warns the  
23 insured about having to clean a dryer every 18 months to  
24 avoid the risk of fire?

25 A There is not that specific information. There

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EHP LARSON 073759

1 is specific information about the need to keep the lint  
2 screen clean and exhaust the dryer correctly.

3 Q Okay. You read and took notes, I believe, on  
4 the testimony of our -- the insureds in this case,  
5 Mr. Haroutounyan and Ms. Adamian; is that correct?

6 A Yes.

7 Q And didn't they testify that they cleaned the  
8 lint filter every -- you know, most of the time, if not  
9 all the time?

10 A I think she estimates that she did it 90  
11 percent of the time.

12 Q All right. Let's go to the user manual.  
13 Again, we haven't come across any warning yet having to  
14 do with having to clean your dryer every 18 months, so  
15 let's see if it's in that -- the guide there that we're  
16 going to mark as Exhibit H, and this is Kenmore Dryer Use  
17 and Care Guide, and has your client represented to you  
18 that this was the use and care guide that accompanied the  
19 model at issue?

20 A That is what I've been given to understand.

21 (Exhibit H was marked for identification  
22 by the court reporter and is attached hereto.)

23 BY MS. MILUSO:

24 Q Okay. Why don't you -- we'll go to -- I think  
25 it's page 3. And on page 3 here is important safety

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EHP LARSON 073760

1 instructions, and here, why don't you tell me the warning  
2 that has the warning regarding every 18 months, I believe  
3 this is the location, having to clean your dryer every 18  
4 months.

5 A It's one of the locations. It is indeed on  
6 page 3 and it's under a section called "Important Safety  
7 Instructions" and "Read all instructions before using  
8 this dryer," and specifically under that it's warning,  
9 "To reduce the risk of fire, electrical shock, or injury  
10 to persons when using this dryer comply with the basic  
11 warnings listed below. Failure to comply with these  
12 warnings could result in serious personal injuries." And  
13 then it's under a heading that says "Prevent Fire," and  
14 within that is a warning that says "Clean the lint screen  
15 before or after each load. The interior of the dryer,  
16 lint screen housing and exhaust duct should be cleaned  
17 approximately every 18 months by qualified service  
18 personnel. An excessive amount of lint build-up in these  
19 areas could result in inefficient drying and possible  
20 fire," and then it says to "See care and cleaning, page  
21 7."

22 Q Is there any -- how many other warnings are  
23 listed on that page with the warning that you described  
24 regarding the 18 months? How many warnings are on that  
25 page?

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EHP LARSON 073761

1 A With respect to prevent fire?  
 2 Q Sure, or just in general, and then you can tell  
 3 me about fire.  
 4 A Well, there are -- under "Prevent Fire" there  
 5 are eight separate pieces of safety information that are  
 6 preceded by the word "Warning" or the signal word  
 7 "Warning."  
 8 Q Okay. And would you agree with the statement  
 9 that the effectiveness of a warning about a given hazard  
 10 is likely to decline when it must compete with many  
 11 other warnings and other stimuli for product user's  
 12 attention?  
 13 MS. DIEI: Objection. Vague and ambiguous,  
 14 overbroad, incomplete hypothetical.  
 15 THE WITNESS: There is research both in  
 16 psychology in general and in warnings research that the  
 17 more information there is, then the more difficult it is  
 18 to remember it all.  
 19 BY MS. MILUSO:  
 20 Q Okay.  
 21 A And then with respect to warnings, the more  
 22 warnings that there are, there is differences in the  
 23 amount of information that people can retain as the  
 24 amount of information increases.  
 25 Q Okay. I'm just going to repeat this because I

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1 don't think you exactly answered my question. I want to  
 2 know if you agree with this statement and then it's a  
 3 "yes" or a "no." I don't mean to box you in but that's  
 4 the question I'm asking.  
 5 A Okay.  
 6 Q Do you agree with the statement the  
 7 effectiveness of a warning about a given hazard is likely  
 8 to decline when it must compete with many other warnings  
 9 and stimuli for a product user's attention; do you agree  
 10 with that statement?  
 11 MS. DIEI: Objection. Vague and ambiguous,  
 12 overbroad, incomplete hypothetical.  
 13 THE WITNESS: I think it will be specific to  
 14 the product and kind of information that's being  
 15 presented.  
 16 BY MS. MILUSO:  
 17 Q Okay. In this case there is a defense that,  
 18 you know, these insureds did not follow the instructions  
 19 because they testified that they never had their dryer  
 20 serviced by an authorized servicer and definitely not  
 21 every 18 months, so the defense is that they didn't  
 22 follow the warnings, and I want to know whether you think  
 23 that -- because it's an allegation in this case whether  
 24 there were -- you testified there were eight other  
 25 warnings on the sheet, do you think that it is -- that

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ENF LARSON 073762

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ENF LARSON 073763

1 there was a -- that a consumer could have been  
 2 potentially overwhelmed by the number of warnings and may  
 3 not have heeded all of them because there are so many on  
 4 one sheet?  
 5 MS. DIEI: Objection. Vague and ambiguous,  
 6 overbroad, incomplete hypothetical.  
 7 THE WITNESS: Well, my understanding in this  
 8 instance is that Ms. Adamian never read any of the  
 9 information in this manual, so it would be irrelevant to  
 10 her in terms of the number or specific things that were  
 11 cited, and Mr. Haroutounyan, he -- he talks about  
 12 glancing through it but couldn't recall any of the  
 13 information that was contained in here, and he was not  
 14 the -- he was -- very seldom used the dryer. So for  
 15 these particular people, I believe that that whole issue  
 16 was largely irrelevant.  
 17 BY MS. MILUSO:  
 18 Q Would it have been irrelevant if that warning  
 19 label was on the product itself, clean it every 18  
 20 months, do you think that they most likely would have  
 21 read that had it been on the product?  
 22 MS. DIEI: Objection. Vague and ambiguous,  
 23 overbroad, calls for speculation.  
 24 MS. MILUSO: She's an expert and she can  
 25 testify to what she believes as a human factors expert.

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1 Q What you believe in the case based on what  
 2 you've read about what they've done, whether or not --  
 3 whether you think an on-product label would have  
 4 increased their likelihood to have read it.  
 5 MS. DIEI: Let me just interpose the same  
 6 objections and incomplete hypothetical.  
 7 THE WITNESS: The -- I haven't seen any  
 8 testimony that says whether they read any of the labels  
 9 on the dryer at all, and having information on the dryer  
 10 itself does not automatically increase the likelihood  
 11 that somebody is going to read it. We have people in  
 12 this case who have had previous experience with a dryer,  
 13 they've used a dryer before and they used a dryer without  
 14 incident before and the -- so users who are familiar with  
 15 a product, even though it might not have been necessarily  
 16 an Electrolux dryer, it's difficult then for a  
 17 manufacturer who can provide instructions and labels on  
 18 their product and information in manuals to have people  
 19 read that information. And that is, you know, an early  
 20 study that Dr. Davis did where he had people using  
 21 hammers and each hammer had a warning on it that -- of  
 22 the hundred people tested no one even noticed that there  
 23 was a warning on the hammer. So that has been a finding  
 24 that has been replicated by others as well.  
 25 BY MS. MILUSO:

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TO PROTECTIVE ORDER

ENF LARSON 073764

CONFIDENTIAL - SUBJECT  
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ENF LARSON 073765

1 Q So what, in your opinion, should a manufacturer  
2 of a product that poses a risk of fire do, if anything,  
3 to adequately warn or prevent injury? Isn't that the  
4 point of warning, to prevent injury or accidents?  
5 MS. DIEHL: Let me just interpose an objection.  
6 It's vague, ambiguous, overbroad, it's argumentative and  
7 an incomplete hypothetical.  
8 BY MS. MILUSO:  
9 Q Can you just state what you believe the purpose  
10 of warnings is to be, let's start there. What is the  
11 purpose of a warning?  
12 A The purpose of a warning in general is to  
13 provide information, a message, to reduce injury, or in  
14 this case, reduce the risk of fire and provide  
15 information in such a way that hazards are potentially  
16 identified and what steps can be taken to avoid them.  
17 Q Okay. And would you agree with the statement  
18 that hazards that a consumer knows, they're more likely  
19 to avoid; would you agree with that statement?  
20 MS. DIEHL: I'll object on the grounds that it's  
21 vague, ambiguous, overbroad and an incomplete  
22 hypothetical.  
23 You can answer.  
24 THE WITNESS: I don't understand the  
25 question.

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1 BY MS. MILUSO:  
2 Q Okay. So my question is -- I'll give you a  
3 hypothetical. If you walk out to your car in the morning  
4 and you see that your back tire, back left tire, is, you  
5 know, low, almost touching the ground and you can see  
6 that it's low, would it be reasonable to assume that a  
7 consumer who can see that would be less likely to drive  
8 in that car because they know it could pop and be unsafe,  
9 is that a reasonable assumption based on your  
10 experience?  
11 MS. DIEHL: Objection. Incomplete  
12 hypothetical.  
13 THE WITNESS: I can't speak sufficiently to  
14 that kind of specific example. What I do know is that  
15 often times people are aware -- totally aware of hazards,  
16 the hazard is well understood and people will still take  
17 risks and will still take chances for a whole variety of  
18 reasons. So having the knowledge doesn't necessarily  
19 make people act on that knowledge.  
20 BY MS. MILUSO:  
21 Q Okay. And, you know, providing a warning  
22 doesn't necessarily mean that the warning is going to be  
23 followed; is that an accurate --  
24 A That is right. The warning can't in and of  
25 itself make people act.

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EHP LARSON 073766

CONFIDENTIAL - SUBJECT  
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EHP LARSON 073767

1 Q Okay. Do you agree with the statement that the  
2 time and effort that a person is likely to devote to any  
3 given warning message is likely to suffer as a number of  
4 competing messages on the same product and on other  
5 products in the users' environment increases?  
6 MS. DIEHL: I'll object on the ground that it's  
7 vague, ambiguous, overbroad and an incomplete  
8 hypothetical.  
9 THE WITNESS: Well, generally, the more  
10 information that there is that has to be processed, that  
11 represents a certain cost in effort, in information  
12 processing effort, and as that increases, either people  
13 will make a decision to invest or not.  
14 BY MS. MILUSO:  
15 Q Okay. And in this case you've provided the  
16 opinion that the warnings on this product were -- and I  
17 believe we've gone through all the -- unless you disagree  
18 with me, we've gone through all the warnings on this  
19 product, is that correct, that accompany the product; is  
20 that correct?  
21 MS. DIEHL: Objection. Did you go through  
22 everything?  
23 MS. MILUSO: I don't know. Did we miss  
24 anything regarding warnings that accompanied this  
25 product?

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1 THE WITNESS: Well, there's a document that's  
2 called the installation instructions.  
3 BY MS. MILUSO:  
4 Q Do you know if the installation instructions  
5 accompanied the product and were distributed to the  
6 consumer?  
7 A Well, it's Electrolux's practice to include  
8 those with the other material that's to be left with the  
9 consumer.  
10 Q Do you know if in this case the consumer  
11 actually read the installation instructions?  
12 A Oh, my understanding is that certainly --  
13 Q I know it's hard, you can say the husband or  
14 wife if it's easier?  
15 A My understanding is that the wife didn't read  
16 any of it and I don't recall any testimony that the  
17 husband did.  
18 Q Okay. And do you know whether or not the  
19 consumers themselves installed the product or whether  
20 someone else installed the product?  
21 A Oh, in this case?  
22 Q Yes.  
23 A Oh, my understanding is that they absolutely  
24 did not install it themselves. They had somebody install  
25 it and I believe it was related to Sears.

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EHP LARSON 073768

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EHP LARSON 073769

1 Q Okay. And so if the Haroutounyans -- or the  
2 husband and wife didn't install it and they had a company  
3 install it, would it be -- is it unforeseeable that  
4 they're not going to read the installation instructions,  
5 based on your experience as an expert?

6 A Well, they may or they may not. This has  
7 Sears's name on it and it says "Save these instructions."  
8 It will depend on what they're interested in. These are  
9 labeled "Installation instructions" and these -- these  
10 people are not doing the installation but if there was  
11 something that came up related to the performance, for  
12 example, this might be a document that they would refer  
13 to.

14 Q Okay. Well, if no issue came up in relation to  
15 performance, meaning everything was functioning properly,  
16 is it your belief as an expert that the consumer would go  
17 back to their product manual for any reason if it was  
18 working properly?

19 MS. DIEL: Objection. Vague, ambiguous,  
20 overbroad, calls for speculation and an incomplete  
21 hypothetical.

22 THE WITNESS: I think it will depend on the  
23 consumer and their wish to seek information and whether  
24 they are -- decide to look for information, so it's very  
25 much consumer driven.

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EHP LARSON 073770

1 BY MS. MILUSO:  
2 Q Okay. You're a consumer; right?  
3 A I am a consumer, yes.  
4 Q Do you own a dryer?  
5 A I do.  
6 Q Do you own more than one dryer?  
7 A No.  
8 Q And is this dryer in your residential home,  
9 your personal permanent residence?  
10 A It is.  
11 Q And is it located within your own unit? I  
12 don't want to make assumptions about where you live, but  
13 is it located within your own unit as opposed to like a  
14 laundry room in your building?  
15 A It is.  
16 Q Do you know who made that dryer or what the  
17 brand name is on your dryer?  
18 A I believe it's Amana.  
19 Q Do you -- did you purchase it?  
20 A Yes.  
21 Q And do you know when you purchased it?  
22 A I don't.  
23 Q What -- can you give me a range? Did you  
24 purchase it a year ago or more than a year ago?  
25 A No, it's more than a year ago and I'd say it's

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EHP LARSON 073771

1 more than five years ago.  
2 Q Is it more than ten years ago?  
3 A I don't think so.  
4 Q Is it more than seven years ago?  
5 A I don't know.  
6 Q But sometime -- it's over five years old?  
7 A It is.  
8 Q Okay. Have you ever had it serviced?  
9 A I don't recall having it serviced.  
10 Q Okay. And have you ever had any problems with  
11 its performance?  
12 A No.  
13 Q Have you ever had it cleaned? And when I say  
14 "cleaned" I mean have you ever had an authorized servicer  
15 come in and clean your dryer?  
16 A I have not.  
17 Q Have you ever had someone clean your vent  
18 ducts?  
19 A I have.  
20 Q Do you remember when you had someone clean your  
21 ducts?  
22 A I believe it was at the time when I had the  
23 roof redone.  
24 Q And was it part of your -- just the maintenance  
25 performance or was there a problem that led you to have

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EHP LARSON 073772

1 those ducts cleaned?  
2 A I think it was prompted by the fact that -- as  
3 I recall, it was related to I was replacing the roof and  
4 that's where the outlet -- the exhaust outlet is.  
5 Q Do you know if you -- do you know how -- the  
6 configuration of the ducts in your home, do you know how  
7 they're configured?  
8 A In terms of the part between the walls?  
9 Q Yeah. Between the walls, yeah.  
10 A I don't specifically know. I know it's vented  
11 to the exterior.  
12 Q Do you know how far it is from the back of your  
13 dryer to the exterior of your home? I mean, I'm just  
14 asking about what you know about your own dryer.  
15 MS. DIEL: Objection. Irrelevant.  
16 BY MS. MILUSO:  
17 Q Well, to be fair, Mr. Doris went through the  
18 same line of questioning, so I'm going to go through this  
19 with you as well.  
20 A The dryer is on the second floor of the house  
21 and the vent outlet is fairly directly above that, I  
22 believe.  
23 Q Okay. So it travels upward you believe. Does  
24 it go up to your roof?  
25 A Yes.

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EHP LARSON 073773

1 Q So it vents onto your roof?  
2 A It does.  
3 Q Do you know how far it is from the back of your  
4 dryer to the roof, just an estimate, or -- is it less  
5 than 30 feet?  
6 MS. DIEHL: Objection. Irrelevant.  
7 THE WITNESS: I don't know.  
8 BY MS. MILUSO:  
9 Q Okay. Have you ever looked inside your exhaust  
10 vent on the back behind -- that goes behind your dryer on  
11 the wall?  
12 MS. DIEHL: Objection. Irrelevant.  
13 THE WITNESS: Looked into it?  
14 BY MS. MILUSO:  
15 Q Yes, looked into it.  
16 A I have not.  
17 Q Did you -- did you purchase this dryer yourself  
18 or maybe a spouse?  
19 A It's -- I probably purchased it.  
20 Q Do you remember purchasing it?  
21 A I don't.  
22 Q Do you remember reading any instructions that  
23 came with it?  
24 A I have read them.  
25 Q You've read them. When did you read them?

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1 A It's going to be back around the time that I  
2 purchased it.  
3 Q Have you read them since then or have you  
4 pulled it out for any reason since you purchased it?  
5 A I don't believe so.  
6 Q Okay. And was there any -- to your  
7 recollection, were there any instructions regarding  
8 maintenance that you recall reading in your  
9 instructions?  
10 A No.  
11 Q Do you recall reading that you should clean the  
12 lint filter?  
13 A Oh, yes, that's -- that's certainly there,  
14 yes.  
15 Q And is it your --  
16 A I thought you were asking about -- when you  
17 were talking about maintenance, I thought you were  
18 talking about with respect to some periodic  
19 maintenance.  
20 Q Well, you don't remember -- I just want to make  
21 sure I understand your testimony. In terms of periodic  
22 maintenance, you don't remember seeing any -- when you  
23 read it, you don't remember what you read if there was  
24 anything regarding periodic maintenance?  
25 MS. DIEHL: Objection. Irrelevant.

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EHP LARSON 073774

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EHP LARSON 073775

1 THE WITNESS: I don't recall whether there was  
2 information like that in there.  
3 BY MS. MILUSO:  
4 Q Okay. Would -- if -- and I'm giving you a  
5 hypothetical, if it said in your dryer instructions that  
6 every 18 months you have to have a professional come out  
7 and clean the inside of the dryer in places where you  
8 can't see, would you have had that performed,  
9 personally?  
10 MS. DIEHL: Objection. Irrelevant and  
11 incomplete hypothetical.  
12 BY MS. MILUSO:  
13 Q You can answer. If everything had been working  
14 properly on your dryer, which I believe it has for you.  
15 A It has, and I have not had such maintenance  
16 done.  
17 Q Would you have -- so you personally don't --  
18 you haven't done any normal, regular maintenance every 18  
19 months or you don't do any regular maintenance on your  
20 dryer; is that correct?  
21 MS. DIEHL: Objection. Irrelevant.  
22 THE WITNESS: In terms of having a qualified  
23 service technician come out, I don't recall having done  
24 that with this dryer.  
25 BY MS. MILUSO:

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1 Q Do you perform any maintenance on your dryer  
2 at all?  
3 MS. DIEHL: Objection. Irrelevant.  
4 BY MS. MILUSO:  
5 Q And if you do, what do you do?  
6 A Well, I certainly clean the lint from the lint  
7 basket that's within the dryer, periodically vacuum in  
8 back and around the dryer.  
9 Q And when you vacuum in back and around, do you  
10 pull it away from the wall or disconnect it from any  
11 exhaust venting?  
12 A I do not disconnect and I do not unplug.  
13 Q Okay. And I'm assuming also that you don't  
14 take off, like, the outside of the dryer and clean  
15 inside, you don't take the metal off and clean inside?  
16 MS. DIEHL: Objection. Irrelevant.  
17 THE WITNESS: I do not try and dismantle the  
18 dryer.  
19 BY MS. MILUSO:  
20 Q Okay. If cleaning of a consumer dryer required  
21 a dismantling, would that be a reasonable expectation on  
22 consumers to clean it that way, based on your experience  
23 as an expert?  
24 MS. DIEHL: Objection. Vague and ambiguous.  
25 overbroad, incomplete hypothetical, calls for

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EHP LARSON 073776

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EHP LARSON 073777



1 speculation.

2 THE WITNESS: I think it will depend on how

3 comfortable someone is at doing that, but what this

4 information says is that that kind of operation should be

5 done by a qualified service person.

6 BY MS. MILUSO:

7 Q And would it -- but it doesn't say that that's

8 provided with this dryer, that they will send somebody

9 out for you, does it?

10 MS. DIEL: Objection. Misstates the

11 evidence.

12 THE WITNESS: If we're talking about the dryer

13 in this case, my understanding is that the homeowners had

14 purchased a three-year agreement with Sears that allowed

15 them to have, at that point, once they paid that money,

16 an annual review and inspection and maintenance of the

17 dryer and someone would come out and perform that, they

18 purchased that.

19 BY MS. MILUSO:

20 Q Do you know what -- and what's the basis for

21 your information that they purchased that product?

22 A My understanding -- actually, I'm not sure this

23 is it -- oh, yes -- is the -- there's an agreement

24 reference specifically that has -- this has

25 Mrs. Adamian's name on it for \$49.99 and I believe they

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ENF LARSON 073778

1 included a -- this specific kind of agreement that's also

2 described in the -- as a master protection agreement

3 Q And this would have been purchased at the time

4 she purchased the dryer; is that correct?

5 A It is.

6 Q It's maybe what we would know as an extended

7 warranty; would that be fair or a protection plan?

8 A I don't know what it's been called within the

9 litigation. Here, it's referenced as a master protection

10 agreement that among the other things that's included is

11 an annual preventative maintenance check at your request

12 and no extra charge.

13 Q Okay. Do you know if the Haroutounyans ever

14 used their protection plan or master protection

15 agreement?

16 A From their testimony, my understanding is that

17 they did not.

18 Q And didn't they also testify that they never --

19 that they didn't have any problems with the dryer?

20 A Yes, that's my understanding.

21 Q Okay.

22 A Prior to the fire.

23 Q So as an expert, wouldn't it be reasonable to

24 assume that a consumer who has no problems with their

25 dryer would not necessarily call out someone to service

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ENF LARSON 073779

1 their dryer?

2 MS. DIEL: Objection. Vague, ambiguous,

3 overbroad, incomplete hypothetical.

4 BY MS. MILUSO:

5 Q I'm asking you as an expert if it's -- if a

6 consumer -- I'm sorry, you can actually repeat the

7 question.

8 (Record read.)

9 THE WITNESS: I think in -- particularly in

10 this instance where we have people who have already paid

11 for that kind of service, that it's unusual for them not

12 to take advantage of it.

13 BY MS. MILUSO:

14 Q Have you ever purchased, personally, an

15 extended warranty?

16 A I have.

17 Q And have you -- have any of your extended

18 warranties included regular maintenance?

19 A Yes.

20 Q Can you describe which products you bought

21 these extended warranties on.

22 A They were actually for a washer and dryer

23 through Sears.

24 Q Was it similar to the protection agreement that

25 you purchased, similar to the one that you're reading

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ENF LARSON 073780

1 here in the master protection agreement in this case?

2 This is a Kenmore Sears dryer.

3 MS. DIEL: Objection. Irrelevant.

4 THE WITNESS: I don't recall all the different

5 aspects of it, but it certainly included a -- an annual

6 inspection, that someone would come out and -- and I just

7 don't recall how many years it covered.

8 BY MS. MILUSO:

9 Q Do you remember ever having someone -- calling

10 someone out, in your own experience, to come out and do

11 that annual service?

12 A I did.

13 Q Did you initiate that on your own or did Sears

14 call you?

15 A I don't recall.

16 Q Let me -- well, other than the installation

17 instructions, the user guide, the on-product labels and

18 the operating instructions that we've reviewed, do you

19 have any knowledge of any other warnings that came

20 associated with this product?

21 A I think in terms of what we've discussed

22 already, including the installation instructions that we

23 didn't mark, but that's my understanding of the

24 information that would either be on or accompanying the

25 dryer that would have contained information with respect

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ENF LARSON 073781

1 to dryer fire risk.

2 Q Okay. Is there anywhere in these instructions

3 that says that lint may accumulate in a place that you

4 cannot see? Is there anything? I want to know if you

5 think that that warning is included in any of these

6 installation instructions, user guide or operating

7 instructions or labels.

8 MS. DIEHL: I'll object on the grounds that it's

9 vague, ambiguous and overbroad.

10 THE WITNESS: I think I read into the record

11 here descriptions of lint in the exhaust vents, and I

12 believe in these documents somewhere there is a

13 discussion about potentially in the chassis, and that kind

14 of language is here.

15 BY MS. MULLINO:

16 Q Okay. Well, I'm going to borrow this for a

17 second, this user guide, Exhibit H. The specific

18 relevant instructions, middle of the page on page 3,

19 "Clean the lint screen before or after each load. The

20 interior of the dryer, lint screen, housing and exhaust

21 duct should be cleaned approximately every 18 months by a

22 qualified service personnel. An excessive amount of lint

23 build-up in these areas could result in inefficient

24 drying and possible fire." There would be -- do you

25 think that this warning -- if -- making the assumption

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ENF LARSON 073782

1 that you are at risk of fire if you don't have it cleaned

2 every 18 months, the inside of the dryer, do you think

3 it's a reasonable expectation on consumers to have to

4 perform this regular service, based on your experience as

5 an expert?

6 A Well, I think there's a difference between

7 providing the information as this manufacturer has done

8 and then what it is someone will do about it, and the

9 information is here, it's present, it's in this use and

10 care manual -- use and care guide. It's presented in two

11 different places about the need to have it serviced.

12 There's information that's presented with respect to the

13 extended maintenance information --

14 Q Page 2?

15 A -- that is called the master protection

16 agreement that someone will come out annually in that

17 case to examine the dryer, so the information is there.

18 The issue about whether someone will act upon it, how

19 effective it can be is separate from that and the idea

20 that having the 18 months service information be on the

21 dryer itself and that that would make a change somehow in

22 these people's behavior or that -- that is not going to

23 increase the likelihood that this kind of action gets

24 done. It's not an issue of the location of the

25 information.

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ENF LARSON 073783

1 Q Why not? I mean, why isn't it going to

2 increase the likelihood that it gets done?

3 A I -- I know that Dr. Doris has picked out the

4 cost of compliance as an issue, and given that this

5 family already purchased an agreement and certainly the

6 financial cost is already sunk, so they're not getting

7 anything for that money that they spent. It's true, you

8 would have to stay home and wait for a service provider

9 to come out and that is true for so many aspects of

10 keeping a house maintained, whether it's -- I have in my

11 briefing binder here examples of -- those kinds of

12 recommendations are made for your furnace and your water

13 heater to have somebody come out and do maintenance on

14 those. I think that -- though, that it's really more

15 likely related to the fact that after 18 months,

16 typically, there is no fire, and so it's -- I think that

17 the -- that it's the understanding that the risk and the

18 likelihood is low, that is partially related to people

19 not responding in this case to this kind of

20 information.

21 Q When you say that the risk is low, what's your

22 basis for that, that the risk is low? I mean, obviously

23 they had a fire in their house, so there was an actual

24 real risk that was actuated, I mean, it happened, so the

25 risk in this case was high.

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ENF LARSON 073784

1 A No. No, the risk stays the same. The

2 population risk stays the same.

3 Q Okay.

4 A It did happen to this family, in this family's

5 home, but the population risk is the same.

6 Q At what point -- well, I want to make sure I

7 understand what you're talking about. The risk -- what

8 is your basis that the risk is low? Is it because they

9 didn't have a fire in the first 18 months?

10 A No, I'm not talking about this family's risk.

11 I'm talking about the population, and there are dryers in

12 a huge proportion of households in the United States.

13 There are estimates that maybe 400 loads a year are being

14 done on average for a dryer -- on the average dryer, so

15 that's a lot of dryers and a lot of use, and the -- and

16 that normally you can go a lifetime without ever

17 experiencing a dryer fire. So the -- so that kind of

18 experience, that lifetime of experience that people have

19 with dryers, I think is partly what makes people less apt

20 to act upon the information.

21 Q And I understand that. If -- if you know that

22 your Amana dryer in your home would -- could potentially

23 start a fire in your home if you did not have a

24 professional person come out to clean it, to take off the

25 housing, something that you can't do, it has to be an

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ENF LARSON 073785

1 authorized service person, would you do that -- would you  
2 call someone out every 18 months?

3 MS. DIEI: Objection. Vague, ambiguous,  
4 incomplete hypothetical. She already indicated someone  
5 came out.

6 THE WITNESS: It's not that a fire will happen,  
7 it's a fire -- there's a chance of a fire. By failing to  
8 do this action, you are increasing the likelihood of a  
9 fire occurring compared to having it serviced but it's  
10 not something that's going to happen 100 percent of the  
11 time.

12 BY MS. MILUSO:

13 Q Well, I mean, most things aren't going to  
14 happen 100 percent of the time; right?

15 A Right, so the likelihood is low.

16 Q Okay. And -- but when the likelihood --  
17 doesn't it matter what the risk is, if it's death or  
18 injury, isn't it more important than if the risk is  
19 failure -- you know, a failure in the product and its  
20 service and how it performs?

21 MS. DIEI: Objection. Vague, ambiguous,  
22 overbroad, incomplete hypothetical.

23 THE WITNESS: In terms of what? What are you  
24 relating it to?

25 BY MS. MILUSO:

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ENP LARSON 073786

1 Q Sorry, I'm sure it was vague. It is more --  
2 would you agree with the statement that it's more  
3 important to have a warning on something that is -- has a  
4 risk to injury or death like a fire versus a warning, you  
5 know, to make sure it's maintained properly so it  
6 performs properly; correct?

7 MS. DIEI: Objection. Vague, ambiguous,  
8 overbroad.

9 THE WITNESS: The information about maintenance  
10 in the set of information that we've been talking about  
11 is in terms of risk, is in terms of fire and to reduce  
12 your chance of fire, have a service technician come out  
13 and perform what's -- an annual inspection on this  
14 suggested time frame, so that's there.

15 BY MS. MILUSO:

16 Q But it -- and I think this warning says, "Clean  
17 the lint screen before or after each load, the interior  
18 of the dryer, lint screen, housing and exhaust duct  
19 should be cleaned approximately every 18 months by  
20 qualified service personnel. An excessive amount of lint  
21 buildup in these areas could result in inefficient drying  
22 and possible fire." So would it be reasonable for a  
23 consumer whose dryer is performing efficiently to assume  
24 that they don't have a risk of fire because it's  
25 performing efficiently?

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ENP LARSON 073787

1 MS. DIEI: Objection. Vague, ambiguous,  
2 overbroad, incomplete hypothetical.  
3 THE WITNESS: Reading this information under  
4 important safety information, under a warning that says  
5 "To reduce the risk of fire, electrical shock, injury to  
6 persons when using this dryer comply with basic warnings  
7 listed below. Failure to comply with these warnings  
8 could result in serious personal injuries," and then the  
9 heading "Prevent Fire," now that's the context of the  
10 information that you just read into the record in  
11 addition to it being fronted by the signal word  
12 "warning." So it is being placed in the context of  
13 safety and this is a safety related behavior, so the  
14 presentation of this information is characterizing it as  
15 definitely related to reducing the risk of fire.

16 BY MS. MILUSO:

17 Q But you're not concerned at all, you don't  
18 think there's any distraction, in your opinion, in the  
19 fact that the same warning includes the result of not  
20 performing those functions as an inefficient drying?  
21 That doesn't bother you at all that it also says  
22 "inefficient drying"?

23 MS. DIEI: Objection. Vague, ambiguous,  
24 overbroad, incomplete hypothetical.

25 THE WITNESS: Well, it includes both.

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ENP LARSON 073788

1 inefficient drying and possible fire.

2 BY MS. MILUSO:

3 Q And so based on this user care guide and the  
4 warnings that are included in here, you believe that's  
5 adequate warning for the risk associated with this  
6 dryer?

7 MS. DIEI: I'll object on the grounds that it's  
8 vague and ambiguous as to whether you've also included  
9 all the other warnings.

10 BY MS. MILUSO:

11 Q I'll include all the other warnings.

12 A I believe, as I stated in my opinion, that the  
13 information that's provided here is reasonable and  
14 adequate and specifically includes information about the  
15 need to do the 18 months service by a qualified service  
16 personnel.

17 Q Do you think that most consumers who receive,  
18 based on your experience as an expert in the area of  
19 warnings and human factors and human behavior, do you  
20 think that most individuals, most consumers who purchase  
21 this dryer had an authorized service person come every 18  
22 months?

23 A I don't know.

24 Q You think it's a reasonable expectation on  
25 consumers, I'm not talking about the Harcourtyans, do

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ENP LARSON 073789

1 you think it's a reasonable expectation on consumers to  
2 have someone come and clean parts of the dryer that you  
3 cannot see every 18 months? Do you think that's a  
4 reasonable expectation?

5 A I think it's reasonable for someone who reads  
6 this information to understand that if they don't do  
7 that, it increases their risk of fire, that that  
8 information is conveyed and it's conveyed in a clear  
9 manner, in words that people can understand and then it's  
10 up to the consumer to decide whether they're going to act  
11 upon that or not.

12 Q You've mentioned cost and the cost to the  
13 consumer, do you think that's a reasonable cost for a  
14 consumer to undergo, not only the cost of buying the \$99  
15 protection plan, but after the three years there is no  
16 protection plan. Do you think it's a reasonable  
17 expectation -- a reasonable cost on consumers to have to  
18 pay that money to have it be serviced?

19 A Well, you do have to pay a service provider to  
20 come out and inspect your dryer and that's true if I want  
21 to have my furnace done or my -- or if I had an  
22 air-conditioner, to have an air-conditioner checked, to  
23 take my car in to be serviced, those things do have some  
24 monetary costs to them, but that is -- the person who is  
25 performing that service is a professional and that's

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EHP LARSON 073793

1 their job to do that kind of work.

2 Q But isn't it true that people are -- normal  
3 basic -- normal behavior is that, you know, if something  
4 is -- you know, if it's not broken then why fix it?  
5 Would you agree with -- that most consumers function  
6 that, you know, the products in their home, if it's  
7 working efficiently then I'm not going to fix it?

8 MS. DIEL: Objection. Incomplete  
9 hypothetical.

10 THE WITNESS: I think it would be influenced by  
11 a lot of different factors.

12 BY MS. MILLSO:

13 Q Okay. Well, let's talk about that. Are there  
14 other -- what products do you think consumers are more  
15 likely to get serviced when they're working totally fine,  
16 which products in your mind and in your experience as a  
17 human factors expert, are people likely to get regular  
18 service on when it's working properly?

19 A I don't know. I haven't done that kind of  
20 analysis.

21 Q Is it -- so you can't testify whether you think  
22 it's reasonable that -- for a consumer who buys a dryer  
23 to have to perform annual service even if it's working  
24 fine?

25 A No, I haven't said that.

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EHP LARSON 073791

1 Q Okay. Well, let's talk about a dryer then. Is  
2 a dryer in someone's home, is it reasonable that a  
3 consumer would get something -- get a dryer serviced that  
4 was working fine?

5 A I think that it's reasonable for a consumer who  
6 reads the information that's provided here by Electrolux  
7 to understand that if they don't have this regular kind  
8 of service done, that that increases their risk of a  
9 fire. And then it's up to them to make a decision about  
10 whether -- given all the other risks that people face in  
11 day-to-day activities whether they're going to act upon  
12 that information.

13 Q Isn't that something that the consumer should  
14 know before they buy it, what they're expected to do?

15 A Well, I saw some of that kind of testimony in  
16 Dr. Doris's deposition. The -- I would think that at  
17 least to the extent that this family decided to purchase  
18 a master protection agreement that potentially there was  
19 some understanding of the issue about scheduling  
20 maintenance and the possibility of a potential issue with  
21 the dryer, so that there wasn't some -- there was some  
22 reason that they decided to make this additional \$90  
23 purchase in addition to what they had already paid for  
24 the dryer. The -- apart from that, you have an appliance  
25 whose basic role is to produce heat and the transfer of

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EHP LARSON 073792

1 heat and maybe they don't understand about the -- that  
2 the water turns to vapor and all these kinds of things.  
3 If they read some of this information, they will  
4 understand, but they'll know that this is a  
5 heat-producing appliance that transfers heat from  
6 whatever it is that the appliance is doing itself to the  
7 clothing or whatever items are in the dryer. And just  
8 that kind of a process is a potential fire risk and not  
9 specific to any particular manufacturer.

10 Q Well, there are a lot of fire risks in our  
11 homes; right?

12 A There is and people will understand in general  
13 that a range in the kitchen poses a potential fire  
14 risk.

15 Q And people would -- and a toaster, for  
16 instance, would also pose a fire hazard?

17 A A toaster, yes.

18 Q If a consumer had to take apart their toaster  
19 to clean it, take it off, use a screwdriver to take it  
20 off, would that be a reasonable expectation on a  
21 consumer?

22 MS. DIEL: Vague, ambiguous, overbroad,  
23 incomplete hypothetical.

24 THE WITNESS: I have not looked at toasters and  
25 what's expected of consumers for toasters.

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EHP LARSON 073793

1 BY MS. MILUSO:  
 2 Q Have you looked at any other household  
 3 appliance in your experience as a human factors expert  
 4 regarding maintenance? Have you looked at any other  
 5 household appliances?  
 6 A In what respect?  
 7 Q In terms of the risk of fire associated, how  
 8 consumers act and in terms of maintenance, any of those  
 9 things.  
 10 MS. DIEL: Objection. Vague and ambiguous.  
 11 THE WITNESS: That's a very broad question.  
 12 MS. DIEL: Overbroad.  
 13 BY MS. MILUSO:  
 14 Q Well, you're an expert, right?  
 15 A I have expertise in the area of warnings and  
 16 risk communication.  
 17 Q And I guess in your history of your years that  
 18 you've been in this business and -- what experience do  
 19 you have with household products in all these years?  
 20 Other than what you use personally, I'm talking about as  
 21 an expert.  
 22 A I have done a lot of work related to household  
 23 products of various kinds.  
 24 Q Can you just tell me about some of the work  
 25 that you've done that would be relevant to household

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1 products that pose a fire risk?  
 2 A Well, I've got examples in here of manuals  
 3 that -- one is -- accompanies a furnace, the other  
 4 accompanies a -- I believe it's -- all of a sudden I  
 5 can't remember. Let me look.  
 6 Q Okay.  
 7 A Oh, water heater, and there's also an example  
 8 of a car manual in here.  
 9 Q Why do you think the car manual is relevant?  
 10 A Well, I think the -- I think what it does is  
 11 assist with consumers' expectations, that lots of  
 12 products come with manuals, that manuals tend to have  
 13 more information than what is on a product itself and  
 14 that -- so that people will know that often when they  
 15 get -- you can talk about appliances but motor vehicles,  
 16 all kinds of consumer products, that there will be  
 17 potentially labeling on the product, and if not, or in  
 18 addition to, there will often be a manual.  
 19 Q And when it -- can you tell me other examples  
 20 of when -- some product that a consumer buys that is  
 21 expected to do regular maintenance say every -- like on  
 22 an 18-month basis or any other basis -- one-year,  
 23 two-year basis, can you tell me any other examples of  
 24 those? I just want to know about your research.  
 25 A Well, I didn't attempt to try and look at every

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EHP LARSON 073794

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EHP LARSON 073795

1 single product. I provided these as examples of other  
 2 kinds of products that people do have in their homes  
 3 where those manufacturers have suggested periodic  
 4 maintenance be done.  
 5 Q Okay. So let's talk about what you brought  
 6 with you regarding that. You said you brought gas  
 7 furnaces. So what are the expectations of consumers as  
 8 it relates to the maintenance in the gas furnace material  
 9 that you've reviewed?  
 10 A Well, there's two issues. One is with respect  
 11 to the fact that gas furnaces come with manuals, but the  
 12 other one is that at least within -- this is an example,  
 13 within the manual there's information about the need to  
 14 do some regular service of it.  
 15 Q And can you tell me what you -- let's mark  
 16 that --  
 17 A Okay.  
 18 Q -- as -- where are we? Let's go --  
 19 MS. DIEL: Let's go off the record.  
 20 (Recess.)  
 21 BY MS. MILUSO:  
 22 Q We realized that we hadn't actually marked the  
 23 document that you talked about that was a receipt of  
 24 their -- the Harostomyane purchase of the master  
 25 protection agreement, so we're going to have that marked

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1 as Exhibit I and we have had that copied but we hadn't  
 2 marked it yet so that's going to be I. And we don't have  
 3 a J, correct?  
 4 A And that wasn't the "I" that we rotated and it  
 5 looked like an H?  
 6 Q I wrote it but we hadn't marked it yet.  
 7 A Okay.  
 8 Q So there's a few things out, so we'll get back  
 9 to the other things that you relied on when we get them  
 10 back.  
 11 A Okay.  
 12 (Exhibit I was marked for identification  
 13 by the court reporter and is attached hereto.)  
 14 BY MS. MILUSO:  
 15 Q So let's just get back to your report for a  
 16 second. Do you have any opinions about whether consumers  
 17 are more or less likely to refer to something else when  
 18 they're told to go somewhere else? For instance, in this  
 19 case, the on-product labels say "Please read the user  
 20 guide," do you have any opinion as to whether that  
 21 consumer is more likely or less likely to go read  
 22 something somewhere else when they're told to go to  
 23 another label or warning?  
 24 A It will very much depend on the consumer's --  
 25 it's consumer driven and if they are seeking information,

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1 then they know that that source exists and that it's  
2 something that they can refer to and then also it is a  
3 way of indicating that -- for example, that an on-product  
4 label that then refers to a manual, separate manual, that  
5 this is not all the information. This is a subset --  
6 typically a subset of the information.

7 Q Does -- so your answer is that it would depend  
8 on the diligence of the consumer; is that correct?

9 A It is, it's whether the consumer is seeking  
10 information, if they're looking for information.

11 Q When -- in the case of dryer maintenance and  
12 service, when would a consumer, you know, be seeking that  
13 information?

14 MS. DIEL: Objection. Vague and ambiguous.

15 THE WITNESS: Well, I think we've talked about  
16 some of the factors that influence that. If a product is  
17 not familiar to a consumer, if they -- then they're more  
18 apt to seek the information and if the product is seen as  
19 potentially hazardous. Let's think of things like  
20 chemicals as an example that might be -- give off fumes  
21 and be volatile, that might be seen as more hazardous  
22 than some other kind of less-familiar product that exists  
23 in a home. So that -- those can be some examples of  
24 factors that influence whether someone will go and seek  
25 information.

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EHP LARSON 073798

1 BY MS. MILUSO:

2 Q And what about when -- you know, I'd like to  
3 get your opinions on, what is a reasonable cost. Because  
4 we know that there is cost of compliance, right, we  
5 talked about that a little bit. At what point does the  
6 cost of compliance become unreasonable? So at what  
7 point -- or maybe it doesn't. Do you think that the cost  
8 of compliance ever becomes unreasonable?

9 A It -- there might be somewhere out there that  
10 kind of a situation and I haven't tried to define it at  
11 that -- wherever that tipping point is, but in this case,  
12 I really don't think that the cost of compliance is a big  
13 issue related to this incident. It's certainly a factor  
14 in trying to keep all kinds of things maintained in our  
15 house, in our home. All different kinds of products  
16 there's some effort, and it can be even having your  
17 carpets cleaned, just it -- unfortunately, it does  
18 require, typically, making a call or sending an e-mail  
19 and having -- if it's something that requires someone to  
20 come out to the house, typically you have to be there and  
21 be present when that person does their work at least to  
22 get them started, so -- but this is just going to be part  
23 of keeping the house operational.

24 Q What about -- but like when someone's carpet is  
25 cleaned it's generally because it's dirty; right?

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EHP LARSON 073799

1 A That can be one reason.

2 Q And, you know, when -- let's go back a little  
3 bit to automotive because I think that's an interesting  
4 issue. Is it your opinion that the regular maintenance  
5 that we know to perform on our car, even if it's working  
6 normally, is analogous to the regular maintenance that  
7 Electrolux expects from its consumers to maintain its  
8 dryers?

9 MS. DIEL: Objection. Vague, ambiguous,  
10 incomplete hypothetical.

11 BY MS. MILUSO:

12 Q I just want to understand why you've brought in  
13 that -- why automotive service, regular maintenance, is  
14 relevant to this case.

15 A Well, the reason that I brought it in was that  
16 there seemed to be some question about the  
17 appropriateness of having maintenance, the regular  
18 maintenance information contained in a manual and not be  
19 on a product, and it's just not an unusual condition. It  
20 is a frequent kind of a decision to have that kind of  
21 information contained in a manual that accompanies a  
22 product and a car was one example, but what's being  
23 copied right now are other examples for other  
24 appliances.

25 Q So let me just make sure I understand you, so

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EHP LARSON 073800

1 putting certain things in a manual versus -- is normal  
2 and not everything has to be on a product; is that what  
3 you're saying?

4 A Often times -- well, it is a very typical kind  
5 of a convention to have service information contained in  
6 a manual, and it often times is not possible nor would  
7 consumers want to have their appliances covered with all  
8 of the information that's in the manual, and so there is  
9 this trade-off between selecting certain items to be on  
10 the product itself and then having additional information  
11 in a manual.

12 Q Well, do you agree with the statement that the  
13 best approach is to prioritize hazards in relation to how  
14 commonly they are understood, with respect to the first  
15 criteria and only largely unknown hazards are the first  
16 candidates for possible warnings?

17 MS. DIEL: Objection. Vague, ambiguous,  
18 incomplete hypothetical.

19 THE WITNESS: I think that there are various  
20 approaches to making those kinds of decisions and  
21 certainly that would be one possible thing to consider.

22 BY MS. MILUSO:

23 Q Based on your experience as an expert, do you  
24 think that the average dryer consumer, the average  
25 homeowner, knows that outside of just their vent itself

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EHP LARSON 073801



1 that there are other risks inside that they can't see?  
 2 Do you think the average consumer knows that?  
 3 MS. DIEI: Objection. Vague, ambiguous, calls  
 4 for speculation, incomplete hypothetical.  
 5 THE WITNESS: If they read the information  
 6 that's provided by Electrolux, as an example, they will  
 7 have some understanding of that.  
 8 BY MS. MILUSO:  
 9 Q Does it say in any of the labels that we talked  
 10 about or any of the user guide or installation  
 11 instructions that the consumer may not be able to see all  
 12 of the places where lint can accumulate? Does it say  
 13 that?  
 14 A It references, for example, the exhaust system  
 15 or the exhaust ducts, those are places consumers can't  
 16 see, so it certainly talks about that.  
 17 Q Does it explicitly say that, you know, lint can  
 18 build up in the -- you know, behind your dryer drum where  
 19 you can't see it, it doesn't say that, does it?  
 20 A I don't recall those specific words.  
 21 Q Is it your opinion that the expectation on the  
 22 consumer of this product, to have it serviced every 18  
 23 months by a professional servicer, is it your opinion  
 24 that that's a reasonable expectation, based on your  
 25 experience as an expert?

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EHP LARSON 073802

1 A In terms of --  
 2 MS. DIEI: I'll just impose an objection on the  
 3 grounds that it's vague, ambiguous and an incomplete  
 4 hypothetical.  
 5 THE WITNESS: And I'm not sure I understand the  
 6 question.  
 7 BY MS. MILUSO:  
 8 Q Okay. I want to know if it's your opinion  
 9 based on your experience and your research that an  
 10 average consumer can be expected to have an authorized  
 11 servicer come every 18 months without any reminder or  
 12 warning, is that a reasonable expectation on a  
 13 consumer?  
 14 MS. DIEI: Same objections.  
 15 THE WITNESS: Well, there are any number of  
 16 ways that a consumer who is interested in keeping that  
 17 kind of a schedule can track it. So I don't -- I don't  
 18 think that that kind of information about here's, you  
 19 know, three ways to think about doing needs to be  
 20 included in the manual.  
 21 BY MS. MILUSO:  
 22 Q Okay. Well, when we -- do you know whether  
 23 Sears, who sold the dryer and provided the service or  
 24 lack thereof under the master service agreement, whether  
 25 they ever called or reminded the Adamians to have their

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EHP LARSON 073803

1 dryer service performed?  
 2 A I don't know.  
 3 Q So you know whether it was Sears's standard  
 4 practice to do so?  
 5 A I don't know.  
 6 Q Would you agree that not all hazards -- I'm  
 7 sorry, not -- the right terminology is escaping me --  
 8 just because a product contains a warning, that it may  
 9 not be followed; is that correct?  
 10 A Yes, that's true.  
 11 Q And the purpose -- I'm reading from your report  
 12 on page 7, "The purpose of a warning is to inform a user  
 13 of possible negative consequences as a result of taking  
 14 or failing to take some action," would you agree with  
 15 that?  
 16 A Yes.  
 17 Q And then you say, "However, research into the  
 18 effect that warnings and safety information have on human  
 19 behavior has shown warnings cannot motivate or force  
 20 compliance?"  
 21 A Yes.  
 22 Q And are there -- so what happens -- I mean,  
 23 what should a manufacturer do if they can't rely on  
 24 consumers to follow the warnings? Well, what should a  
 25 manufacturer do?

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EHP LARSON 073804

1 A The -- what a manufacturer can do in terms of  
 2 warnings is to provide information in a way that can  
 3 communicate, can be understood by consumers and that is  
 4 in locations that are reasonable for being able to  
 5 communicate with consumers and that really is the extent  
 6 of what a manufacturer can do in terms of providing  
 7 warnings. It then -- you know, whether someone will seek  
 8 that information and read it and act upon it is related  
 9 to a lot of other factors, some of which we've already  
 10 spoken about, and that is beyond the control of the  
 11 manufacturer. So the adequacy of the information and the  
 12 presentation of it can't get coupled with effectiveness  
 13 because those really are two different aspects.  
 14 Q Well, there's a third option; right? I mean,  
 15 the manufacturer can design a product or incorporate  
 16 designs that are -- that are safer, that prevent some of  
 17 those failures; correct?  
 18 A And I'm addressing it from warnings, what can  
 19 somebody -- a manufacturer do with respect to warnings.  
 20 Q When would you find -- in what circumstance  
 21 have you ever found that a warning was inaccurate? Let  
 22 me strike that and rephrase.  
 23 Have you ever found that a warning that you  
 24 have reviewed has been inadequate?  
 25 MS. DIEI: Objection. Vague, ambiguous,

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EHP LARSON 073805

1 overbroad.  
 2 THE WITNESS: I have testified in a case with  
 3 respect to a fireworks warning.  
 4 BY MS. MILUSO:  
 5 Q And why did you find that the warning was  
 6 inadequate in that case?  
 7 A Well, there were warnings on the fireworks.  
 8 This particular type of firework had a -- a consistent  
 9 pattern of performance related to injury that was not  
 10 included among the warnings.  
 11 Q Do you do -- can you quantify how much work you  
 12 do for defense versus how much work you do for  
 13 plaintiffs?  
 14 A The -- I would estimate about 65 percent of the  
 15 work that I do is litigation-related, and of that work,  
 16 over 90 percent is on behalf of the defense.  
 17 Q And when you do that litigation work for the  
 18 defense, have you ever determined in your process of  
 19 reviewing the materials provided to you that warnings  
 20 were inadequate?  
 21 MS. DIEL: Objection. Vague, ambiguous,  
 22 overbroad.  
 23 THE WITNESS: Well, if -- certainly if I'm  
 24 asked to do that and that is what I determine then I  
 25 don't proceed with that work very far, that's sort of the

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EHP LARSON 073806

1 end of the review.  
 2 BY MS. MILUSO:  
 3 Q That makes sense.  
 4 A Uh-huh.  
 5 Q Well, you talked about the Slabach and the  
 6 Powers case that you had been retained by counsel and  
 7 also another case that never made it to fruition that  
 8 maybe Electrolux had pulled you in on, what were your  
 9 findings in those other cases? Did you determine that  
 10 the warnings were adequate?  
 11 A Yes, I did.  
 12 Q And you didn't -- I don't have it here anymore  
 13 but your report in the Slabach decision, if you recall  
 14 it, maybe we can look at it when it comes back, but was  
 15 it relatively similar to your opinion in this case?  
 16 A It is.  
 17 Q Why is that? Why are they similar?  
 18 A Well, it's the -- it's very much a similar set  
 19 of safety information and warnings that were present on  
 20 the two dryers.  
 21 Q Okay. I don't want to get too far ahead of  
 22 ourselves because I want to see the ANSI, A-N-S-I, all  
 23 caps, standard that you brought in and I want to talk  
 24 about that before we go home, but let's talk about this  
 25 other document you brought in, the Sears protection

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EHP LARSON 073807

1 agreements. I think on your index you had it listed as a  
 2 2011 agreement; would that be accurate?  
 3 A Yes.  
 4 Q Why is this relevant to your findings in this  
 5 case?  
 6 A Well, this is a document that was sent to me by  
 7 Counsel.  
 8 Q Do you know why it was sent to you?  
 9 A I -- I think it was to illustrate the kinds of  
 10 things that can be covered in a Sears protection  
 11 agreement, but I -- but it is for my -- my understanding  
 12 is that this is for 2011 and I thought that the  
 13 description in the manual that came with the appliance in  
 14 this case, with the dryer in this case, was probably a  
 15 better description of what some of that would cover --  
 16 what specifically things would be covered.  
 17 Q Did your client provide you with like the  
 18 actual protection agreement or any other material that  
 19 came with their \$90 purchase or \$89.99 purchase of the  
 20 Agreement?  
 21 A No.  
 22 Q So you don't know what -- other than what's in  
 23 the user and care guide, you don't know what else the  
 24 consumer received; is that correct?  
 25 A In this case?

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EHP LARSON 073808

1 Q Yes, in this case.  
 2 A What this particular family received?  
 3 Q Yes.  
 4 A I don't.  
 5 Q Okay. So it's possible that they didn't  
 6 receive any document outside of just their use and care  
 7 guide; is that correct?  
 8 MS. DIEL: Objection. Calls for speculation.  
 9 THE WITNESS: I don't know one way or the  
 10 other.  
 11 BY MS. MILUSO:  
 12 Q Okay. Other than the cases that we've talked  
 13 about today, have you ever done any other work for  
 14 Electrolux or any other counsel that represented  
 15 Electrolux for any other product?  
 16 A Can you chunk that into a smaller question?  
 17 Q Yes. Electrolux manufactures several different  
 18 products; they manufacture refrigerators, other home  
 19 appliances, have you ever been an expert or consultant  
 20 for Electrolux in any other product?  
 21 A I have.  
 22 Q Okay. What other products?  
 23 A A range.  
 24 Q Like a stove range, that type of thing?  
 25 A Yes, kitchen range.

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EHP LARSON 073809

1 Q Okay. And was it, again, that you were  
2 retained as an warnings expert?  
3 A Yes.  
4 Q And what were your findings in that case, if  
5 you can recall, generally?  
6 A As I recall, it related to tip-over risk and I  
7 don't recall all the specific findings but there were  
8 warnings on the product and warnings accompanying the  
9 product with respect to that risk.  
10 Q You've read Dr. Doris's report; is that  
11 correct?  
12 A Yes.  
13 Q And what was your -- do you have any problems  
14 with his report? Do you agree -- or do you disagree with  
15 anything in his report?  
16 A I believe I pointed out some of the areas that  
17 he and I disagree about.  
18 Q And what were those areas?  
19 A The bottom of page 6 and going on to page 7.  
20 Q So on the bottom of page 6 it says "Dr." --  
21 "Well, Dr. Doris acknowledges that noncompliance with  
22 warnings does not necessarily make a warning inadequate.  
23 He opines that the warnings provided by Electrolux are  
24 inadequate because they require excessive or  
25 disproportionate measures for compliance. He does not

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EHP LARSON 073810

1 propose alternative warnings that would overcome his  
2 concerns and would have prevented or reduced likelihood  
3 of this event." So is it your opinion that the warnings  
4 provided by Electrolux are adequate and they do not  
5 require excessive or disproportionate measures for  
6 compliance?  
7 A Well, I think -- well, first, I do believe, as  
8 I say in my overall opinion, that the warnings provided  
9 by Electrolux are adequate, but I also -- I disagree with  
10 Dr. Doris in -- in the concept that even if actions are  
11 required that -- that require some cost associated with  
12 compliance, that just may be the cost in order to reduce  
13 the risk, and so there are -- people have to wear OSHA  
14 supplied or OSHA-rated respirators to work in confined  
15 spaces and it may be uncomfortable, it may be hot and  
16 that may impose some cost on the person, but nonetheless  
17 in those kinds of circumstances that would be the steps  
18 that somebody would need to take to reduce their risk.  
19 So it's true that some -- some actions that are asked of  
20 consumers for them to take to reduce the risk will pose  
21 some cost of compliance, some effort and sometimes some  
22 money to achieve that compliance.  
23 Q Hypothetically, if Electrolux required that you  
24 had to have an authorized service person out to your home  
25 every six months and it was going to cost you \$50 every

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EHP LARSON 073811

1 time, every six months throughout the duration of your  
2 dryer, do you think that would be an -- that would be a  
3 cost of compliance that was too high?  
4 MS. DIEHL: Objection. Vague, ambiguous,  
5 incomplete hypothetical.  
6 THE WITNESS: Yeah, I have not looked at the --  
7 again, measuring where things become excessive or a  
8 disproportionate measure for compliance. In this case  
9 what we have is a recommendation of 18 months that comes  
10 from Electrolux. The family in this case paid for an  
11 agreement that covered, in that agreement, they could  
12 have as many as three visits to look at the appliance, so  
13 that -- that particular cost, the actual monetary cost,  
14 has already been sunk basically.  
15 BY MS. MILUSO:  
16 Q But it's only been sunk for the first three  
17 years; right?  
18 A Right.  
19 Q And then there's additional costs after those  
20 three years?  
21 A There would be.  
22 Q Do you disagree with Dr. Doris's statement that  
23 appliances are typically serviced on an as-needed  
24 basis?  
25 A Yeah, I didn't -- I didn't see that he had a

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EHP LARSON 073812

1 basis for that statement and I provided the other  
2 examples of -- that were in my binder that I brought here  
3 of other appliances that suggest to consumers -- that  
4 recommend to consumers that they have those appliances  
5 serviced on a regular basis.  
6 Q Do you know whether it was Sears's practice to  
7 provide any warnings verbally at the time of purchase  
8 regarding the maintenance requirements of this dryer?  
9 A I don't know what Sears's practices were.  
10 Q I think we touched this a little bit but I want  
11 to go back to it. You read Dr. Doris's transcript from  
12 his deposition?  
13 A I did.  
14 Q And during that deposition transcript he  
15 mentioned that it would have been -- that these warnings  
16 were inadequate was obviously his findings, but that  
17 because certain consumers are more diligent and other  
18 consumers are not, that the choice to buy this dryer --  
19 in order to make that choice the consumer should have  
20 known about the maintenance requirements, particularly  
21 something as -- particularly the 18-month cleaning  
22 requirement to avoid fires. Do you disagree with that  
23 opinion?  
24 A Well, it seems to me that under that there's an  
25 assumption that other brands and other manufacturers

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EHP LARSON 073813

1 won't have --

2 THE REPORTER: I'm sorry, my computer just shut

3 off.

4 (Recess.)

5 MS. MILUSO: So when we failed -- let's just

6 have her repeat that one more time.

7 THE WITNESS: She closed the file.

8 BY MS. MILUSO:

9 Q Okay. That's okay. We were talking about

10 pre-purchasing labeling, I believe, if that makes sense.

11 Do you remember?

12 A I do remember.

13 Q Okay. Go ahead.

14 MS. DIEHL: And I'll just object that the

15 question was compound and vague, ambiguous.

16 MS. MILUSO: Okay. You can answer, if you

17 remember.

18 THE WITNESS: Well, I remember what I was going

19 to say.

20 MS. MILUSO: Okay, perfect, why don't you say

21 that.

22 THE WITNESS: It seems to me that there was an

23 assumption is that belief that if consumers understood

24 the maintenance issues with Electrolux dryers, that then

25 they would make some other decision about purchase, and

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ENP LARSON 073814

1 there will be -- for dryer manufacturers who follow the

2 ANSI standards for gas dryers, there is guidance that in

3 their manuals they should provide recommendations for

4 periodic maintenance. Electrolux is doing that. For

5 other manufacturers that -- and I don't know what their

6 recommendations for periodic maintenance might be, but if

7 they are following the ANSI standard for their product,

8 they would have guidance also. So it's not -- I don't

9 believe it's going to really be a matter of by purchasing

10 some other manufacturer's appliance or dryer that you're

11 going to somehow be able to avoid having to do any

12 maintenance on the appliance.

13 BY MS. MILUSO:

14 Q And -- okay, but if -- would you agree with the

15 statement that some hazards cannot be avoided or

16 mitigated through any action except by avoiding the

17 product or situation?

18 MS. DIEHL: Objection. Vague, ambiguous,

19 overbroad, incomplete hypothetical.

20 THE WITNESS: Can you read that again.

21 BY MS. MILUSO:

22 Q Yes. Some hazards cannot be avoided or

23 mitigated through any action except by avoiding the

24 product or situation?

25 MS. DIEHL: Same objections.

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ENP LARSON 073815

1 THE WITNESS: In some broad way, that's

2 probably true.

3 BY MS. MILUSO:

4 Q And also that -- would you agree with the

5 statement that some information made to consumers, if

6 presented at the point of purchase -- example -- a

7 warning about the potential choking hazard of small parts

8 could potentially steer parents away from buying a toy

9 that might prove dangerous for small children?

10 MS. DIEHL: Objection. Vague, ambiguous,

11 overbroad, incomplete hypothetical.

12 THE WITNESS: If -- for parents that might read

13 that warning and have a child that might be at risk some

14 of them might make other decisions.

15 BY MS. MILUSO:

16 Q And in the same way, a consumer who buys a

17 product, let's say, a household product like a toaster

18 oven, they buy a toaster oven, and on -- at the point of

19 sale they see that, you know, this toaster oven requires

20 you to clean something every two days, whereas another

21 one says to clean it after every use, I mean, wouldn't a

22 consumer be able to use that information to decide

23 whether it wants to purchase one toaster over another

24 toaster?

25 MS. DIEHL: Objection. Compound, incomplete

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ENP LARSON 073816

1 hypothetical.

2 THE WITNESS: Well, potentially there's all

3 kinds of information that could be available to consumers

4 on which to make a decision, and I think we have a --

5 cost can be a consideration, and I believe that the

6 people in this case mentioned something about cost as one

7 of the things -- the amount of money that they would have

8 to pay for the dryer, so there can be a whole variety of

9 factors that influence a purchase decision. I would

10 expect that maintenance -- getting back to dryers -- that

11 the maintenance of dryers and the period -- recommended

12 period for maintenance is not going to be some major

13 influence on whether a particular consumer chooses that

14 dryer over another manufacturer's.

15 BY MS. MILUSO:

16 Q Okay. Now that everything is back here, let's

17 talk about ANSI, and that's A-N-S-I. What is ANSI?

18 A ANSI is an umbrella standards organization that

19 has many different subgroups within it, and the subgroups

20 typically form a task force that develops standards that

21 can be applicable to whole varieties, there's hundreds

22 and hundreds of ANSI standards. In this case what we

23 have is an ANSI standard that's specific to gas clothes

24 dryers, that's the ANSI Z21.5.1. And in order to be

25 published as an ANSI standard, there has to be a certain

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ENP LARSON 073817

1 process that's been gone through in developing the  
2 standard. They are a consensus standard and if that  
3 process is gone through, then it ultimately can be  
4 published as an ANSI standard.  
5 Q Okay. You brought this ANSI Z21.5.1, dash,  
6 2002, and this is what you believe to be the applicable  
7 ANSI standard at the time of the distribution of the  
8 dryer at issue?  
9 A Yes.  
10 Q Okay. And --  
11 A Or at the time of the manufacturer.  
12 Q At the time of manufacturer. So you refer  
13 to -- in your report you say the applicable standard for  
14 the incident dryer, ANSI Z21.5.1, 2002, recommends that  
15 dryer instruction manuals include instructions about the  
16 need for periodic examination of exhaust systems.  
17 MS. DIEHL: What page are you on?  
18 MS. MILUSO: I'm sorry, I'm on page 7 of her  
19 report, middle of the way down, the end of the first full  
20 paragraph.  
21 Q So why don't we go to the ANSI standard that  
22 you brought with you, we're going to mark that as Exhibit  
23 J, and let's go to the portions that you cite here.  
24 A Okay.  
25 Q I believe you cite to footnote 32, section

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EHP LARSON 073818

1 1.22.8C.  
2 A Yes.  
3 (Exhibit J was marked for identification  
4 by the court reporter and is attached hereto.)  
5 BY MS. MILUSO:  
6 Q Okay. So can you read to me what 1.22.8C says.  
7 A Yes, it is within -- there's A, B, C, D, E, F,  
8 so I think it's better to start up higher.  
9 Q Okay, go ahead, start at the top.  
10 A Okay. 1.22.8, "Maintenance instructions shall  
11 include instructions for all maintenance intended to be  
12 performed by the user, including recommended frequency  
13 guidelines. Maintenance instructions shall include but  
14 are not limited to" and then it lists cleaning of lint  
15 screen, that was A; B, lubrication of moving parts; C,  
16 and this is the one that we're talking about, periodic  
17 examination of exhaust systems.  
18 Q Okay. Now, as an expert, do you think that the  
19 periodic examination of exhaust systems would include  
20 looking in places where the consumer can't access?  
21 A Yes, it can. It can include that.  
22 Q Okay. So in order to meet this standard the  
23 exhaust system -- sorry, strike that.  
24 It says "Maintenance instructions shall include  
25 instructions for all maintenance intended to be performed

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EHP LARSON 073819

1 by the user" and then you refer to part C, periodic  
2 examination of exhaust systems, this is specific to the  
3 user. But in this case, isn't the warning at issue  
4 something that they have to be -- have service performed  
5 by an authorized servicer?  
6 A Yes, and the information goes to the user to  
7 have that done, to act upon that to have the service  
8 personnel come out.  
9 Q Is there anything in this standard that says  
10 that you have to tell users to have a person come out to  
11 service your dryer?  
12 A I'm -- I am not aware that that level of detail  
13 is in this standard. It allows the manufacturer to  
14 determine that.  
15 Q Well, if we assume, hypothetically, that the  
16 user cannot see or access themselves portions of the  
17 dryer that accumulate lint and can lead to lint  
18 accumulation and potential fire risk, would then the  
19 instructions on -- that we've reviewed today that came  
20 with this dryer and were on this dryer, would those meet  
21 this standard?  
22 MS. DIEHL: Objection. Vague, ambiguous,  
23 compound and incomplete hypothetical.  
24 THE WITNESS: In my view, they do meet the  
25 standard in that we've talked about the specific segments

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EHP LARSON 073820

1 within the manual that direct consumers to -- every 18  
2 months to have the exhaust system and the dryer checked  
3 out by a qualified service technician, and that surely  
4 would meet the periodic examination of exhaust systems  
5 guidance within the standard.  
6 BY MS. MILUSO:  
7 Q Now, this standard, does it make any  
8 recommendations? These are general recommendations;  
9 correct? I'm sorry, are these general recommendations?  
10 A They -- well, for --  
11 MS. DIEHL: Objection.  
12 THE WITNESS: -- gas --  
13 MS. DIEHL: Vague and ambiguous.  
14 THE WITNESS: They are for gas clothes dryers,  
15 so they're specific to gas clothes dryers.  
16 BY MS. MILUSO:  
17 Q But not every gas clothes dryer is the same;  
18 right?  
19 MS. DIEHL: Objection. Vague and ambiguous.  
20 BY MS. MILUSO:  
21 Q Well, I mean, it's a question. I mean, this is  
22 a standard that should apply to all; but not every dryer  
23 is the same; correct?  
24 MS. DIEHL: Objection. Vague and ambiguous.  
25 THE WITNESS: Well, with respect to the scope

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EHP LARSON 073821

1 of this standard, I mean, you have to -- and this is  
 2 type-one clothes dryers, all of the dryers that fall  
 3 within that particular scope, this standard would be  
 4 applicable to.  
 5 BY MS. MILUSO:  
 6 Q Okay. But just because you've met the language  
 7 in the standard does not automatically mean that the  
 8 warnings are adequate, correct?  
 9 A Oh, I agree that that's not necessarily a  
 10 determiner, that's not the sole determiner of the  
 11 adequacy.  
 12 Q Okay. What other factors would an expert like  
 13 you look at to determine the adequacy other than you  
 14 relied on the ANSI standard, but what else would  
 15 determine adequacy?  
 16 A Well, I've discussed a lot of them in the  
 17 report, so -- is the information in a manner that people  
 18 can understand it, is it in a -- located in a place where  
 19 people could reasonably find it. Those were certainly  
 20 some of the aspects of adequacy that I considered.  
 21 Q Isn't it true that there are certain products  
 22 that no warning would be adequate to prevent a danger and  
 23 require a change in the -- in the product itself?  
 24 MS. DIEHL: Objection.  
 25 BY MS. MILUSO:

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EHP LARSON 073822

1 Q Would that be true?  
 2 MS. DIEHL: Vague and ambiguous, incomplete  
 3 hypothetical.  
 4 THE WITNESS: I don't understand the  
 5 question.  
 6 BY MS. MILUSO:  
 7 Q Well, we see consumer products all the time,  
 8 right, that have safeguards built in; is that correct?  
 9 Would you agree?  
 10 MS. DIEHL: Objection. Vague and ambiguous.  
 11 THE WITNESS: I'm -- I still --  
 12 BY MS. MILUSO:  
 13 Q For instance, a vacuum cleaner has a fan that  
 14 processes and pushes the air out and we have screens over  
 15 those fans to make sure little kids don't stick their  
 16 fingers in the fan and get their fingers caught, we put  
 17 safeguards onto products. Would you agree with that  
 18 statement that safeguards are built into products?  
 19 MS. DIEHL: Objection. Vague, ambiguous,  
 20 incomplete hypothetical.  
 21 BY MS. MILUSO:  
 22 Q As a layperson, have you come across products  
 23 that incorporate safeguards, in general?  
 24 A I still don't know -- I still --  
 25 Q Okay, fair enough. Have you ever used a table

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EHP LARSON 073823

1 saw?  
 2 A No.  
 3 Q Have you ever used a weed whacker?  
 4 A I don't recall doing that.  
 5 Q Have you ever seen one?  
 6 A Yes.  
 7 Q And on the base of a weed whacker there's a  
 8 guard, little strings rip around, and around those  
 9 strings is a guard. Have you ever seen that before?  
 10 A No.  
 11 Q Okay. Let's find another product. Well, just  
 12 a normal box fan that you would have sitting on your hot  
 13 patio or whatever, or in your house, the fan, it's just  
 14 not blades ripping around, right, normally you would see  
 15 some type of protective housing around the fan?  
 16 A There often times is a cover over the fan that  
 17 has some holes in it.  
 18 Q And so there are -- and that would be a  
 19 safeguard that's integrated into the design itself,  
 20 right, the fan cover?  
 21 A It can be a guard that's present there to  
 22 reduce the likelihood of contact between the moving blade  
 23 and fingers, for example.  
 24 Q Okay. Have you ever in your experience come  
 25 across a different product, a different consumer product,

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EHP LARSON 073824

1 that had other safeguards built into the product itself  
 2 because sometimes the warning was not -- could not be  
 3 adequate?  
 4 A Well, the -- I think you're -- your question  
 5 assumes that there is -- when there's a situation where a  
 6 guard is insufficient, that then there might be warnings  
 7 and the warnings are present only when the guard can't  
 8 protect sufficiently, but the -- but the problem with  
 9 that assumption is that many times there are both guards  
 10 and safety information, guards and warnings, and in other  
 11 cases, you have products that have injuries associated  
 12 with their use and there are no warnings. The -- tables  
 13 and chairs have injuries associated with their use and we  
 14 often don't have warnings all over our tables or on the  
 15 surfaces of our chairs, so that kind of mix of what is  
 16 done differs from product to product.  
 17 Q Well, what's the -- if you can, provide me the  
 18 general, you know, at what point does a product need to  
 19 have a label on it to warn someone of a risk? Obviously  
 20 you just described a chair as one that does not, we know  
 21 there are risks, you can fall back, you can hit your  
 22 head, things can happen. What would be an example of a  
 23 product where the warning has to be on the product to  
 24 prevent a risk?  
 25 MS. DIEHL: Objection. Vague and ambiguous.

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EHP LARSON 073825



1 MS. MILUSO: Let's do household products, for  
2 instance.  
3 MS. DIEL: Objection, vague, ambiguous,  
4 overbroad, incomplete hypothetical.  
5 THE WITNESS: To the extent that there were  
6 requirements by law, those would be things that should be  
7 present in terms of warnings. The -- from a human  
8 factors perspective, we've talked about all the decisions  
9 and things that you might consider about whether to warn  
10 or not and we talked about those earlier in the  
11 deposition and what things -- what are the -- some of the  
12 rules of thumb that you might use to make a decision  
13 about warning, and, you know, in this case with clothes  
14 dryers, so much of the information that's present here,  
15 both on the product and in the manual, is related to fire  
16 risk and so there is a significant portion of safety  
17 information that's related to different actions that can  
18 be taken to reduce the risk of fire.  
19 BY MS. MILUSO:  
20 Q Based on your experience as an expert, can you  
21 tell me which of those warnings may have been unnecessary  
22 because people, like you said before, know things,  
23 consumers just -- they know things based on their  
24 experience and time and we don't have to warn away. Are  
25 any of the warnings that you saw in the guide anything

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EHP LARSON 073826

1 that was unnecessary to warn about?  
2 MS. DIEL: Objection. Compound, vague and  
3 ambiguous.  
4 BY MS. MILUSO:  
5 Q Let's look at it, I think that would be fair.  
6 This is the user guide and we'll look at page 3 again.  
7 Are any of these warnings for things that, in your  
8 experience, are unnecessary?  
9 A Well, I haven't -- I haven't taken and  
10 attempted to do an analysis like that. Some of these are  
11 laid out in the guide that's provided under the ANSI  
12 standard. Some of these, as a indicated in my report,  
13 are related to patterns that -- on page 5 of my report,  
14 patterns of fire-related events involving dryers and --  
15 so that information that relates to drying something that  
16 might have something -- might have some kind of gasoline  
17 or solvent, that's included. Drying a product that has  
18 plastic or foam rubber, that's included. The lint screen  
19 after each load, we talked about that before. The 18  
20 months is contained in here, we've already talked about  
21 that. Using it -- using the equipment without the lint  
22 screen if it's block, damaged or missing, that's  
23 mentioned as a fire hazard. So I -- and it goes --  
24 there's others in addition.  
25 MS. MILUSO: Let's just take a brief second.

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EHP LARSON 073827

1 (Discussion off the record.)  
2 MS. MILUSO: I don't mean to interject, I just  
3 have to have it on the record, I did not receive anything  
4 this morning. We were -- I just received defendants'  
5 proposed jury instructions from opposing counsel, and for  
6 the record, I did not receive anything this morning. To  
7 the extent that this is a duplicate of what my office  
8 received on the 5th, I believe your office filed your  
9 proposed jury instructions on the 4th and I did receive  
10 that filing of your trial, pretrial materials, the jury  
11 list -- I'm sorry, the proposed jury instructions,  
12 exhibit list, witness list and short statement of the  
13 case, I received them on the -- I believe on the 5th via  
14 overnight mail -- no, I'm sorry, I was hand-served them,  
15 I think, in the office on Tuesday the 5th. My contention  
16 this morning was not that I had not received them, it's  
17 that they were due on the 1st is what my understanding of  
18 the rules was. So if this differs, I can't compare right  
19 now what I did receive and was served by mail, but I  
20 can't contend whether this differs from what was already  
21 provided to me. If it does, then this would be my first  
22 time I received it because the only thing I had was what  
23 I received earlier in the week that had a proof of  
24 service of June 4th. This has a proof of service of June  
25 8th, so I will assume this is new and I haven't seen it

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EHP LARSON 073828

1 before.  
2 MS. DIEL: Okay.  
3 MS. MILUSO: Okay. Thank you. I said it was  
4 defendants' proposed jury instructions, okay. Thanks.  
5 Q We were on page 5 and you were talking about  
6 your -- that your belief that these -- the instructions  
7 provided met the ANSI standards and a lot of the other  
8 instructions in the use and care guide are probably  
9 derived from the requirements at least laid out in the  
10 ANSI standard; would you agree with that?  
11 A They certainly are aspects of the ANSI standard  
12 that relate to the content of this information of the use  
13 and care guide.  
14 Q Do you think that the -- we talked about cost  
15 of compliance and I don't know what is the appropriate  
16 word but maybe you do, we talked earlier about if there's  
17 a lot of things and there's a lot of warnings you're less  
18 likely to -- consumers may be less likely to follow them.  
19 Do you think that, in your opinion, that this -- okay,  
20 redefine what I said earlier -- or what you said earlier  
21 about the amount of things -- amount of warnings and how  
22 that affects a consumer.  
23 A Well, the amount of information impacts the  
24 amount of effort that will have to be spent to process  
25 all the information, that's -- that's -- and then it puts

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1 more demands on trying to remember it and retrieve it and  
2 all those kinds of things. The issue is that there's a  
3 lot of information here and most of it is here for  
4 reasons that relate to safety and you're talking about --  
5 you're suggesting -- or what's been raised here is that  
6 some of this information should be moved over to the  
7 dryer itself, but then that increases the amount of  
8 information that's on the dryer, and the idea is to  
9 strike a balance between information that's on the  
10 product itself and then all the information that can be  
11 put into a manual.

12 Q Okay. So it's your opinion that it was --  
13 there are adequate warnings to be provided in a manual as  
14 opposed to on the product?

15 A In my opinion the decisions that have been made  
16 by Electrolux and the location of the information and the  
17 content of the information as it relates to fire hazards,  
18 these are reasonable decisions and the warnings that are  
19 provided are adequate.

20 Q Okay. Is the ANSI standard a law?

21 A No.

22 Q Is a manufacturer required to follow the ANSI  
23 standard?

24 A No.

25 Q And may the -- may a manufacturer provide more

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1 warnings than are listed in the ANSI standard?

2 A Yes.

3 Q And when would it be appropriate for -- I'm  
4 sorry, strike that.

5 When would a manufacturer be -- having met all  
6 the ANSI standards, when would the warnings be inadequate  
7 on a gas clothes dryer?

8 MS. DIEL: Objection. Vague, ambiguous,  
9 overbroad, incomplete hypothetical.

10 THE WITNESS: The -- if you think of a  
11 situation where maybe a product posed some emerging,  
12 unique risk that might rise to the level of needing  
13 warning that -- that's something that could occur. These  
14 standards are updated periodically and in some  
15 situations -- I'm not saying it's true with dryers but in  
16 general, sometimes new information becomes available and  
17 then changes are made to warnings. It's an evolving  
18 process.

19 BY MS. MILUSO:

20 Q And what are the types of things that would  
21 lead to a change in the standards, you know, this was a  
22 2002 -- I know there was a 1999 -- what types of things  
23 would lead to a change in the ANSI standard between, say,  
24 2002 and the one that came after that, I don't know what  
25 year that was?

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EHP LARSON 073831

1 MS. DIEL: Objection. Vague, ambiguous,  
2 overbroad.

3 THE WITNESS: Yeah, I don't know specifically  
4 for gas dryers. I don't know.

5 BY MS. MILUSO:

6 Q Okay.

7 A I haven't attempted to study that.

8 Q Okay. Have you looked at the ANSI standard  
9 after this ANSI standard, this 2002 version?

10 A I may have. I don't recall specifically. I  
11 haven't attempted to identify changes.

12 Q Okay. Did you look at any other dryers or any  
13 other user guides by any other manufacturer in your  
14 research to provide your opinion?

15 A Apart from the ones that we've talked about  
16 with the furnace and the --

17 Q Right, but any other -- have you looked at any  
18 other dryer use and care guide for another  
19 manufacturer?

20 A No, I have not.

21 Q Did you look at the one in your home? The  
22 Amana that you have in your home, did you look at that  
23 guide?

24 A I haven't recently looked at it.

25 Q Did you conduct any studies or surveys

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EHP LARSON 073832

1 regarding this case or your work on any of the dryer  
2 cases in general to base your opinion upon?

3 MS. DIEL: Objection. Vague, ambiguous,  
4 overbroad.

5 THE WITNESS: I haven't -- I have not conducted  
6 some new data collection in terms of surveying consumers,  
7 if that's what your question is.

8 BY MS. MILUSO:

9 Q Yes. If you were to -- did you feel like a  
10 survey was unnecessary to derive your opinions?

11 A I did.

12 Q Okay. And why wouldn't a survey on consumer  
13 behavior with regard to clothes dryers, why wouldn't that  
14 be a good basis for your opinion?

15 A I --

16 MS. DIEL: Objection. Misstates her testimony,  
17 vague, ambiguous, overbroad.

18 BY MS. MILUSO:

19 Q Let me rephrase. Could a survey of consumer  
20 behavior, could that help you in your -- form your basis  
21 on a decision of whether or not the warnings here were  
22 adequate?

23 MS. DIEL: Objection. Vague, ambiguous,  
24 compound.

25 THE WITNESS: You'd have to give me more

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EHP LARSON 073833

1 Information.  
 2 MS. DIEL: Incomplete hypothetical.  
 3 THE WITNESS: On the face of it, I don't see  
 4 how it could.  
 5 BY MS. MILUSO:  
 6 Q Well, your opinion that the warnings are  
 7 adequate, is it not based on any type of consumer  
 8 behavior?  
 9 A It's based on a lot of studies and information  
 10 gathered over years that address different aspects of  
 11 warnings and how information is presented on products and  
 12 the tradeoffs with manuals, and all of those kinds of  
 13 things have been looked at, so they -- it's based on a  
 14 whole history of warnings.  
 15 Q Let's -- you brought with you the article by  
 16 John R. Hall, I'm going to mark that as Exhibit K, and  
 17 it's dated March 2009 and it's from the National Fire  
 18 Protection Association, Fire Analysis and Research  
 19 Division. This is also -- this is also called NFPA, I  
 20 believe is the initials. This is called Home Fires  
 21 Involving Clothes Dryers and Washing Machines.  
 22 (Exhibit K was marked for identification  
 23 by the court reporter and is attached hereto.)  
 24 BY MS. MILUSO:  
 25 Q Can you tell me why this is in your collection

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EHP LARSON 073834

1 of materials?  
 2 A Yes, it relates to, on page 5 of my report, a  
 3 paragraph -- the second full paragraph, there are a whole  
 4 series of documents here, the Hall report being one, the  
 5 CPSC document being another as examples of descriptions  
 6 of actions that can be taken or that are related to  
 7 clothing dryer fires. And in looking at the -- these  
 8 documents and the information that's contained in them,  
 9 my conclusion was that the Electrolux warnings and safety  
 10 information specifically addressed a variety of factors  
 11 associated with clothes dryer fires, including cleaning  
 12 of the dryer, and that's what some of this information is  
 13 related to.  
 14 Q Do you know whether these studies included  
 15 Electrolux dryers?  
 16 A The Hall article, whether some of the accounts  
 17 of information that's in there, whether some of those  
 18 would involve Electrolux dryers --  
 19 Q Yes.  
 20 A -- is that your question?  
 21 Q Yes.  
 22 A I would assume so given that Electrolux dryers  
 23 are among the population of clothes dryers that are out  
 24 there.  
 25 Q Is there -- you talked about the failure to

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1 clean and -- as a cause of fires but you're not an expert  
 2 in the area of fire cause, are you?  
 3 A I think we established early on that I am not a  
 4 cause and origin person.  
 5 Q Okay. You mentioned in your report that the  
 6 NFPA includes several safety tips in its report,  
 7 including the -- cleaning the lint filter before or after  
 8 each load; right?  
 9 A Yes.  
 10 Q And if I were to tell you that cleaning the  
 11 lint filter would not have prevented this fire, how would  
 12 that affect your opinions?  
 13 MS. DIEL: Objection. Incomplete  
 14 hypothetical.  
 15 THE WITNESS: Well, if that's true, that is  
 16 still something important to include in safety  
 17 information to the extent that it might be related to  
 18 other fires. What you can't do is design a warning -- or  
 19 what you shouldn't do is design a warning all around one  
 20 particular event.  
 21 BY MS. MILUSO:  
 22 Q There are certain things that the manufacturer  
 23 can do to increase the likelihood that a warning is going  
 24 to be followed?  
 25 MS. DIEL: Objection. Vague and ambiguous.

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1 THE WITNESS: Well, what a manufacturer can do  
 2 is have information be available in a location where  
 3 consumers might interact with it and provide it in a  
 4 manner that it can be understood.  
 5 BY MS. MILUSO:  
 6 Q And do you think that the use and care guide  
 7 warning lets a consumer know that lint can accumulate in  
 8 a place that they cannot see behind the drum, do you  
 9 think that that adequately warns a consumer of that risk,  
 10 of that danger?  
 11 MS. DIEL: Objection. Vague, ambiguous,  
 12 overbroad, incomplete hypothetical.  
 13 THE WITNESS: Are you asking in the section  
 14 about the interior of the dryer, lint screen housing and  
 15 exhaust duct should be cleaned approximately every 18  
 16 months by qualified service personnel, is that --  
 17 BY MS. MILUSO:  
 18 Q Yes.  
 19 A -- the specific -- an excessive amount of lint  
 20 build-up in these areas could result in efficient drying  
 21 and possible fire? It included the lint screen warning  
 22 as well here. I mean, there are -- within this  
 23 description, there are indications that parts of the  
 24 system, the dryer and the exhaust system, aren't --  
 25 consumers know that these aren't all visible to them and

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EHP LARSON 073837

1 it's saying they should be cleaned approximately every 18  
2 months, not by the consumer him or herself but rather by  
3 a qualified service personnel.  
4 Q Well, there is a cost associated with that,  
5 right, with having that service personnel come?  
6 A I think we covered some of that already.  
7 Q Okay. So in this case, they purchased that  
8 agreement, but do you know what the cost would have been  
9 if they hadn't purchased the agreement?  
10 A I don't.  
11 Q Do you know what the cost would have been to  
12 the Haroutounyans --  
13 A And by "cost" there you're meaning the dollar  
14 amount?  
15 Q Dollar amount cost.  
16 A I don't.  
17 Q And what other costs would have been associated  
18 with having an authorized service person come, if you  
19 think there are any other costs?  
20 A Well, the cost of compliance that -- that term  
21 that's used in warnings-related research often does not  
22 relate solely to money but rather amount of effort, and  
23 some of that's already been talked about in these  
24 depositions about having to stay home and wait for  
25 somebody to arrive. Those kinds of things are costs in

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1 terms of people's time and effort, calling -- making a  
2 call to make the appointment, that requires a certain  
3 amount of effort.  
4 Q Okay. Let's look at the CPSC documents that  
5 you referred to, and I believe we'll mark that as L.  
6 (Exhibit L was marked for identification  
7 by the court reporter and is attached hereto.)  
8 BY MS. MILGRO:  
9 Q It's called document 5022, June 2003. Can you  
10 describe what this is.  
11 A This is a document that was issued by the  
12 Consumer Product Safety Commission. It is entitled  
13 "Overheated Clothes Dryers Can Cause Fires" and it  
14 describes some of the steps to take to help prevent  
15 fires.  
16 Q Okay. And why do you have this here? What  
17 makes this relevant to your opinion?  
18 A This and the document that we just talked about  
19 from the NFPA are discussed in the second full paragraph  
20 on page 5, and those kinds of actions that CPSC is  
21 suggesting are ones that are also in the Electrolux  
22 information.  
23 Q Okay. So the Consumer Product Safety  
24 Commission warning, there are these -- I guess it's a  
25 warning, right, or it's a document, I don't know, a

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1 document?  
2 A It's a document. It can be -- it's certainly  
3 information intended for consumers about dryer fires.  
4 Q Okay. I'd like to read in the first sentence  
5 at the top there and I'm assuming it's the reason why  
6 this was issued. It says, "The U.S. Consumer Product  
7 Safety Commission estimates that in 1998 clothes dryers  
8 were associated with 15,600 fires, which resulted in 20  
9 deaths and 370 injuries. Fire can occur when lint builds  
10 up in the dryer or in the exhaust duct. Lint can block  
11 the flow of air, cause excessive heat buildup and result  
12 in a fire in some dryers." Do you -- it's not clear,  
13 though, from here any specific dryers; right?  
14 A That's right.  
15 Q And I'm sorry, it was your testimony that all  
16 of these warnings exist in the documents that were  
17 provided to the consumer in this case?  
18 A The -- these topics are covered in the  
19 materials that Electrolux provides. I'm not saying that  
20 it's the same words, exact same words, but similar  
21 messages.  
22 Q Okay. Let's go to what we talked about earlier  
23 a little bit, the documents you brought with you as a  
24 comparison of maintenance and/or warnings. We started  
25 talking about the gas furnace and so I want to understand

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1 why this is relevant to our case about a dryer?  
2 A Well, one of the -- one of the points that  
3 Dr. Doris made was that he seemed to think that other  
4 appliances generally didn't have suggestions about  
5 maintenance, periodic maintenance, and that that would be  
6 unusual. And what I'm indicating here or providing some  
7 examples of is appliances that are common -- commonly  
8 found in people's homes, a gas furnace is one example and  
9 the water heater as another example and suggests that  
10 periodic maintenance be done on these appliances. And  
11 then I also included excerpts of pages of a motor vehicle  
12 manual.  
13 Q So this installation instructions that come  
14 with the furnace, let's mark those as Exhibit M.  
15 (Exhibit M was marked for identification  
16 by the court reporter and is attached hereto.)  
17 BY MS. MILGRO:  
18 Q What's types of periodic maintenance is  
19 required in this specific gas furnace that you brought  
20 along with you?  
21 A There is a section in the table of contents  
22 that says "Regular dealer maintenance," and if you turn  
23 to page 7 it talks about the blowers, and the annual  
24 cleaning of the blower wheel and housing is recommended.  
25 For maximum air output, this must be performed only by

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1 qualified servicer or service agency.

2 Q Does it mention the risk of fire?

3 A I'm not sure that it is specific to fire, but  
4 it's in a -- there's a section of hazardous gases,  
5 there's a section about not altering the unit, there's  
6 carbon monoxide poison hazard warnings in here. I'm not  
7 saying that these -- that maintenance of all of these  
8 different appliances that I've provided examples of are  
9 specific to fire but rather that there are  
10 recommendations for periodic maintenance of appliances  
11 that are common appliances for the home that are found in  
12 users guides and information that is -- accompanies a  
13 product.

14 Q Okay. You brought with you also the  
15 instructions for a gas water heater. Can you point me to  
16 where the service maintenance -- sorry, I'll mark that as  
17 Exhibit N.

18 (Exhibit N was marked for identification  
19 by the court reporter and is attached hereto.)

20 THE WITNESS: On page 26 under the section on  
21 maintenance there are suggestions that at least every  
22 three months a visual inspection should be made of the  
23 venting and air supply system, piping systems, main  
24 burner and pilot burner, check the water heater for the  
25 following and then it has four different items under

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1 that, including obstructions, damage or deterioration in  
2 the venting system and the build up of soot and carbon on  
3 the main burner and pilot burner, so there are a number  
4 of different aspects that are suggested there.

5 BY MS. MILOSO:

6 Q And you talked about a car and we should get  
7 into that a little bit. I'll mark this car maintenance  
8 manual here as Exhibit O.

9 (Exhibit O was marked for identification  
10 by the court reporter and is attached hereto.)

11 BY MS. MILOSO:

12 Q Why is this car maintenance document  
13 relevant?

14 A Again, it's -- a car is a product that many  
15 consumers will have. They will be familiar with the fact  
16 that not every warning related to a car that might be --  
17 that might come from the vehicle's manufacturer will be  
18 on the vehicle or in the occupant compartment itself and  
19 that there will be other information in a manual that  
20 will be related to maintenance and servicing, and these  
21 are just some of the pages from a Camry 2006 about  
22 maintenance and servicing.

23 Q Do you think the average car consumer knows  
24 without reading this that they are required to do regular  
25 maintenance on their vehicle?

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1 A I don't know that they know that they're  
2 required to. I would think that people who have owned  
3 cars and have looked at their motor vehicle manual would  
4 be aware that that was something that was recommended by  
5 the vehicle manufacturer.

6 Q Okay. And do you think that they know that  
7 it's recommended that they do this service even if they  
8 don't read this?

9 A I think they might know that there would be  
10 information in the manual that would contain those  
11 recommendations even if they don't read it.

12 Q Do you have a car?

13 A I do I have a car.

14 Q Do you do regular service on your car? Do you  
15 bring it in for regular service?

16 A I do.

17 Q And when do you do that?

18 A I try and do it in accordance with the  
19 manufacturer's recommendations.

20 Q How often do you refer to your instructions  
21 that came with your car?

22 A Oh, I don't know. I don't know how often I  
23 look at those.

24 Q Do you have -- is there like a sticker in your  
25 car maybe that says get your oil changed every -- you

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EHP LARSON 073844

1 know, so at this point when you hit these miles, get your  
2 oil changed; do you have that?

3 A I do have a sticker that the place where I have  
4 the car serviced puts that on.

5 Q And is that one of the -- is that one of the  
6 indicators for you that, oh, gosh, I should go bring my  
7 car in, is that something that reminds you?

8 A It is something that I use, yes.

9 Q What else do you use to remind yourself to  
10 bring your car in for regular service?

11 A I have a sense of how many miles I drive in a  
12 month and that is useful. I also have an odometer that  
13 tells me how many miles I've driven.

14 Q And when was the last time you had your car  
15 serviced?

16 MS. DIEB: Objection. Relevance.

17 BY MS. MILOSO:

18 Q The same question was asked of my expert, I'm  
19 entitled to ask the question.

20 A I believe it was last year.

21 Q And do you remember why you brought it in?

22 A I think it was a major service, like 65,000  
23 miles or something.

24 Q Okay. And other than those major services and  
25 getting your normal oil change, when else have you

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1 brought your car in for service for, like what other  
2 instances led you to bring your car in for service?  
3 A If there was something unusual in its  
4 performance. I'm trying to think of an example. I'm  
5 sure that that has occurred in my lifetime of driving  
6 cars.  
7 Q Can you think of the last time you had someone  
8 in your home to service one of your appliances?  
9 MS. DIEL: Objection. Irrelevant.  
10 THE WITNESS: Yes, I can think of that.  
11 BY MS. MILOSO:  
12 Q Okay. When was the last time someone came into  
13 your home to service an appliance?  
14 A Within the last two years I've had somebody  
15 come out and service the furnace.  
16 Q Okay. And did you -- why -- what led to that  
17 service visit, did you call them?  
18 A I did, I called them.  
19 Q Do you have a normal service agreement with  
20 this company?  
21 A I don't.  
22 Q And why did you call them?  
23 A The furnace itself has a filter in it and the  
24 recommendation was to have somebody who knows something  
25 about furnaces do the monitoring of it and check it and

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1 check the furnace out.  
2 Q What -- do you have any other products in your  
3 home that you had serviced in the last five years that  
4 you can think of?  
5 A I've had the chimney checked, I've had a lot of  
6 products replaced.  
7 Q Why did you have a product replaced?  
8 A The toilet just wasn't working anymore.  
9 Q And when -- I mean, do you have a dishwasher in  
10 your home?  
11 A I do.  
12 Q And do you have that regularly serviced?  
13 A It's -- I have not had to have that serviced.  
14 Q Do you have a stove in your home?  
15 A I do.  
16 Q Have you had that regularly serviced?  
17 A I have not.  
18 Q And I think at some point earlier you told me  
19 that you had a service agreement for a dryer. Do you  
20 have one on the Amana that you have currently now in your  
21 home?  
22 A No.  
23 Q Have you had anyone to regularly service your  
24 Amana dryer?  
25 A I don't recall having done that.

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EHP LARSON 073847

1 Q Do you recall your instructions telling you to  
2 have someone regularly service your dryer?  
3 A I don't; they could be there.  
4 Q Okay. I'm almost done. Other than what you've  
5 put in your report regarding your issues with Mr. Doris's  
6 report, do you have any other concerns or issues with any  
7 of plaintiffs' positions in their expert reports?  
8 A Beyond what's in my report?  
9 Q You talked a little bit about Mr. Parsons and  
10 Mr. Steddard's warnings and you cite on page 6, for  
11 example, in their report they call for the addition of  
12 three lights on the front of the dryer, one each next to  
13 the messages, clean exhaust system or check exhaust  
14 system, service dryer soon and service dryer now. Do you  
15 have any opinions about these -- the monitoring system  
16 they recommended?  
17 A I have -- in the next paragraph I talk about  
18 some issues that can be related to attempts to deal with  
19 these types of warning system and having -- what kind of  
20 consumers responses you can get so that when the -- they  
21 ultimately get to them, possibly having the dryer shut  
22 down, disengage the heating element. Although it wasn't  
23 all laid out clearly enough for me to understand, but  
24 there have been certainly other circumstances where these  
25 kinds of interlocks have been proposed for other products

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1 that have met with a great deal of consumer resistance  
2 when they were confronted with -- and I use the example  
3 of the interlock on seat belts where a car wouldn't start  
4 unless you had your seat belt already fastened. There  
5 are other kinds of interlocks that I know are sometimes  
6 intentionally overridden by some consumers and then  
7 there's the example in the consumer reports review that  
8 looked at the indicators on some dryers that were  
9 available in 2010 that determine that the current  
10 indicators on those particular appliances were too  
11 inconsistent to be able to trust.  
12 Q Have you brought a copy of this consumer --  
13 A I don't think I have that with me.  
14 Q Okay. I would like a copy of it.  
15 Cathy, on the record, I'd like a copy of the  
16 consumer reports, July 2010.  
17 THE WITNESS: I apologize for that, that should  
18 be here but I did not bring it.  
19 BY MS. MILOSO:  
20 Q And did you bring a copy of the laws -- Public  
21 Law 93492?  
22 A I didn't. Those are all very public laws.  
23 Q Okay. I'll be able to find them, I'm assuming.  
24 Are these in California or are they federal?  
25 A They're federal.

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1 Q Okay. Do you have any issue, generally, with  
2 active monitoring systems on products? Do you think that  
3 they are helpful?

4 A The -- I think it will -- I think it will  
5 depend. It's very specific to the equipment and what  
6 kind of response you might get, so I indicated here that  
7 just proposing this doesn't necessarily result in the  
8 consumer response that you want and we have examples of,  
9 in the past, where that has occurred and we have examples  
10 where -- in other situations on dryers where they may not  
11 be reliable enough for consumers to count on. So  
12 certainly in some kinds of circumstances they have been  
13 known -- for example, smoke detectors, they have  
14 dramatically cut the risk of fires, numbers of fires,  
15 actually, and injuries and fatalities associated with  
16 fires, and they -- there's a -- kind of an active alarm  
17 that has been very effective.

18 Q Do you have any reason to believe that an  
19 active monitoring system would not be effective in this  
20 case, based on what you know as an expert in your  
21 research?

22 A The consumer reports article is specific to  
23 dryers and their determination was that they didn't  
24 behave in a reliable manner, and if you have indicators  
25 that are not reliable, are not -- are coming on when they

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1 shouldn't come on or are not coming on when they should  
2 come on that -- then that information gets discounted and  
3 ignored.

4 Q Does it get -- do you have any opinion whether  
5 it gets ignored more than the user guide or manual?

6 A I don't have -- I don't have any opinion about  
7 that, no.

8 Q Okay. It's not uncommon, is it, that a  
9 consumer doesn't read the manual, is it?

10 MS. DIEL: Objection. Overbroad, vague and  
11 ambiguous, incomplete hypothetical.

12 THE WITNESS: I think we've talked about when  
13 it is that consumers will read manuals, some of the  
14 factors that prompt a consumer to read a manual, you  
15 know, they're seeking information, the product might be  
16 unfamiliar, it might be perceived as unusually hazardous  
17 but those kinds of things are more likely to result in  
18 consumers looking at information, but some of it is going  
19 to be specific to the consumer, some of it's going to be  
20 related to aspects of the product, some of it's going to  
21 be in the environment that it exists in, so there's not  
22 some percentage that you can say, this is what it is for  
23 all product manuals, all products.

24 BY MS. MILUSO:

25 Q Okay. Let me just collect everything and make

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1 sure I mark it. I believe you brought some deposition  
2 indices with you?

3 A Yes.

4 Q Are these documents that you made?

5 A My staff did.

6 Q Your staff did, and did your staff -- is what  
7 you've brought here today other than the consumer report  
8 article that we talked about and the contents of the CD,  
9 which for the most part are here --

10 A Yes.

11 Q -- did -- is this the totality of the  
12 information other than what you know from your own  
13 experience that you relied upon to make your opinion?

14 A Yes, it represents the case specific  
15 information that I've got, plus the information that I  
16 looked at specific to writing my report.

17 Q Okay. Did you read the depositions of the  
18 insureds in this case?

19 A I have.

20 Q You have, and have you reviewed these indices  
21 that your staff prepared for accuracy?

22 A I have -- well, not for accuracy.

23 Q Just reviewed them?

24 A I have reviewed them, yes.

25 Q Okay. I'm going to mark your indices here as

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1 Exhibit P. I don't know if we marked this Sears  
2 protection agreement.

3 (Exhibit P was marked for identification  
4 by the court reporter and is attached hereto.)

5 MS. DIEL: I don't think so.

6 MS. MILUSO: All right. Let's just mark that  
7 as Q, I just want to make sure we all know what happened  
8 here. I think everyone has a copy of that.

9 (Exhibit Q was marked for identification  
10 by the court reporter and is attached hereto.)

11 MS. MILUSO: Just give me one moment and I'll  
12 finish up.

13 Q Can you tell me -- you said you do litigation  
14 work at least 65 percent of the time, can you tell me  
15 what you do the other 25 percent of the time?

16 A Yes, I develop safety information, I do perform  
17 risk analysis, I look at -- I get involved in the design  
18 of products from a human factors perspective, I assist  
19 clients that encounter issues that are being raised by  
20 regulatory agencies.

21 Q What types of issues are raised by regulatory  
22 agencies that you get brought in on in a case like  
23 that?

24 A They can be a concern about a particular aspect  
25 of a product, tipovers and catch points and entrapments

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1 and it can be a whole variety of different aspects.  
 2 Q And often times is one of the agencies the  
 3 Consumer Products Safety Commission?  
 4 A Yes.  
 5 Q And do you -- do you get brought in on cases  
 6 when reports have been made to the Consumer Products  
 7 Safety Commission about problems with products?  
 8 A It sometimes relates to information that has  
 9 come into the Consumer Products Safety Commission that  
 10 that agency has concerns about.  
 11 Q Have you ever been retained by the Consumer  
 12 Products Safety Commission to study inadequacy of a  
 13 warning?  
 14 A No, I don't think so.  
 15 Q Have you consulted specifically for the  
 16 Consumer Product Safety Division?  
 17 A Within Exponent, I have.  
 18 Q In what circumstances did you do that?  
 19 A It related to a softball, some particular  
 20 aspect of it. I can't remember now whether it was size  
 21 or hardness of it and people's ability to use that kind  
 22 of a ball.  
 23 Q The company you work for is Exponent, would  
 24 that be accurate?  
 25 A Yes.

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1 Q And we talked about the cases that you've  
 2 worked on for Electrolux regarding dryers, have you -- do  
 3 you know if anyone else at Exponent has been retained by  
 4 Electrolux or has worked on Electrolux cases?  
 5 A Well, a man by the name of Dwayne Stephe  
 6 (phonetic) has done so.  
 7 Q Do you know those cases and what the  
 8 circumstances of those were?  
 9 A Well, I don't -- I don't know all of them but  
 10 he has done some statistical analysis that -- jointly  
 11 with me, and I believe Tray Morrison.  
 12 Q Does Tray Morrison work for Exponent?  
 13 A Yes.  
 14 Q And in what context, what's his specialty?  
 15 A Thermal scientist.  
 16 Q Has he worked with you on any of the cases you  
 17 talked about today, Slabach or Powers or this case?  
 18 A We -- I have not worked with him. I believe  
 19 that he's been involved in doing some cases.  
 20 Q Have you ever talked with him about any of the  
 21 cases that you've worked on?  
 22 A I don't -- I don't recall having done so.  
 23 Q Okay. Do you have any opinions outside of what  
 24 we discussed today or what's in your report regarding  
 25 this case?

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1 A I don't think so. Whatever you might ask me at  
 2 trial, but I think we've covered, between the deposition  
 3 and the report, what I would expect to testify to.  
 4 Q Okay. We requested your billing and  
 5 information, I believe, in our deposition notice. Did  
 6 you bring any of your billing information related to this  
 7 case with you?  
 8 A We have not submitted an invoice yet.  
 9 Q Can you tell me how many hours, if you know,  
 10 that you've worked on this case or an estimate?  
 11 A I hesitate to give you an estimate --  
 12 Q More than ten?  
 13 A -- it's too much of a guess.  
 14 Q Less than ten?  
 15 A It's going to be more than ten.  
 16 Q More than fifteen hours?  
 17 A I don't know.  
 18 Q Well, I'd like your billing information.  
 19 Cathy, I'll put that on the record, I'd like  
 20 any invoice that you have received or some estimate on  
 21 her time, if possible, if she can provide that. Even if  
 22 it's a partial invoice, I think we should be able to  
 23 obtain that.  
 24 MS. DIEL: Okay.  
 25 MS. MILUSO: Okay.

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1 Q And do you know how many hours you've spent  
 2 since June 4th on this case?  
 3 A Basically preparing for the deposition.  
 4 Q And what did you do to --  
 5 A And traveling and --  
 6 Q What did you do to prepare for the  
 7 deposition?  
 8 A I went back over the report, I went back over  
 9 the deposition testimony, I looked at Dr. Boris's  
 10 testimony, basically I reviewed the various materials,  
 11 particularly those that I brought to the deposition.  
 12 Q Did any of your opinions change since you've  
 13 written your report based on any new information that  
 14 you've reviewed?  
 15 A No.  
 16 MS. MILUSO: Okay. I'll just state one more  
 17 time for the record, we'd like a copy of the Consumer  
 18 Reports article, we'd like a copy of any billing or  
 19 interim billing or some estimate of time, even if it's  
 20 notes, and I think we've been provided --  
 21 I'm sorry, how much do you charge per hour for  
 22 testimony?  
 23 THE WITNESS: The company bills my time at \$440  
 24 an hour and that's regardless of what I'm doing.  
 25 BY MS. MILUSO:

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EHP LARSON 073857

1 Q So your research time versus your deposition  
2 transcript -- I mean, deposition time is the same?  
3 A Yes.  
4 Q And is your testimony at trial the same as  
5 well?  
6 A It is.  
7 MS. MILUSO: Okay. Let's go off the record for  
8 a second.  
9 (Discussion off the record.)  
10 MS. MILUSO: The parties have agreed to receive  
11 a copy of the transcript via e-mail on Monday, June 11,  
12 the day of the start of trial. Ms. Wood will make best  
13 efforts to review that as quickly as possible and get her  
14 signature page done and her errata done as quickly as  
15 possible. If there's a date -- maybe if we don't  
16 receive -- I know it's a little ambiguous, but if we  
17 don't receive an errata or a signature prior to the  
18 testimony of Mr. Doris, then we'll accept that -- her  
19 testimony and -- as basically a waiver of signature and  
20 accept that as a final version.  
21 MS. DIEZ: The only thing is that Whalen  
22 (phonetic) would not stipulate to that with me when I  
23 took depositions. He would only stipulate that the  
24 witness used best efforts and that I use best efforts and  
25 he used best efforts to have the witness review the

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1 testimony as soon as possible and communicate the  
2 information between the attorneys as quickly as  
3 possible.  
4 MS. MILUSO: Okay. Well, we'll use that same  
5 stipulation and if there's -- for some reason Mr. Doris  
6 testifies prior to Ms. Wood then maybe the parties can  
7 have a brief conversation as to whether or not they think  
8 Ms. Wood is going to have any changes.  
9 MS. DIEZ: Agreed.  
10 MS. MILUSO: So stipulated.

(TIME NOTED: 6:39 p.m.)

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1  
2  
3  
4  
5  
6  
7  
8 I, CHRISTINE TALBOT WOOD, do hereby declare under  
9 penalty of perjury that I have read the foregoing  
10 transcript; that I have made any corrections that appear  
11 noted, in ink, initialed by me, or attached hereto; that  
12 my testimony as contained herein, as corrected, is true  
13 and correct.

14 EXECUTED this \_\_\_\_\_ day of \_\_\_\_\_,  
15 2012, at \_\_\_\_\_.

19  
20 CHRISTINE TALBOT WOOD  
21 VOLUME I

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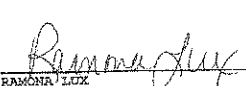
EHP LARSON 073860

1  
2  
3  
4 I, the undersigned, a Certified Shorthand  
5 Reporter of the State of California, do hereby certify:  
6 That the foregoing proceedings were taken before me  
7 at the time and place herein set forth; that any  
8 witnesses in the foregoing proceedings, prior to  
9 testifying, were placed under oath; that a verbatim  
10 record of the proceedings was made by me using machine  
11 shorthand which was thereafter transcribed under my  
12 direction; further, that the foregoing is an accurate  
13 transcription thereof.

14 I further certify that I am neither financially  
15 interested in the action nor a relative or employee of  
16 any attorney or any of the parties.

17 IN WITNESS WHEREOF, I have this date subscribed my  
18 name.

19 Dated: 6/11/12

22  
23   
24 RAMONA LUX  
25 CSR No. 12846

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It is alleged that the dryer failed to contain adequate warnings or instructions with regard to fire hazards and a potential for lint to accumulate within the dryer cabinet and gas burner and ignite a fire.<sup>1</sup>

Based on my review of case materials and other information identified on the attached list of materials, and my education and experience, I have determined the following:

#### Warnings and Safety Information Provided with Electrolux Gas Dryers

Electrolux provided numerous warnings directed at fire hazards associated with lint accumulation and information on how these hazards could be mitigated through proper installation, maintenance, and use of the Kenmore dryer. These warnings were presented in a variety of locations both attached to the dryer and in literature accompanying the dryer. Some of the safety information is directed at users of the dryers and other safety information is directed at installers and those who service the appliance.

Safety information intended primarily for consumers is included in the Use & Care Guide, the Operating Instructions, and a label on the dryer drum. The Use & Care Guide instructs the user to read all instructions before using the dryer and to save the instructions contained in it.<sup>2</sup> In the front of the Use & Care Guide is a section "Important Safety Instructions," several warnings that are distinguished from other portions of the manual by the inclusion of a safety alert symbol (a triangle surrounding an exclamation point) and the signal word "WARNING."<sup>3</sup> In this section consumers are given specific instructions on how to reduce the risk of fire including:

- Clean the lint screen before or after each load. The interior of the dryer, lint screen housing and exhaust duct should be cleaned approximately every 18 months by qualified service personnel. An excessive amount of lint build-up in these areas could result in inefficient drying and possible fire. See Care and Cleaning, page 7.
- Do not operate the dryer if the lint screen is blocked, damaged or missing. Fire hazard, overheating and damage to fabrics can occur. If your dryer has a drying rack, always replace the lint screen when finished using the drying rack.
- Keep area around the exhaust opening and surrounding areas free from the accumulation of lint, dust and dirt.<sup>4</sup>

Consumers are given further instructions on how to prevent fires, including not using heat to dry items containing foam rubber or similarly textured rubber-like materials, not drying items that

<sup>1</sup> Complaint for Property Damage  
<sup>2</sup> Use & Care Guide, pp. 1-4  
<sup>3</sup> Use & Care Guide, pp. 3-4  
<sup>4</sup> Use & Care Guide, p. 3

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have been in contact with flammable materials or cooking oils, and not spraying any type of aerosol near the dryer.<sup>5</sup> Users are further instructed not to store or use flammable vapors and liquids in the vicinity of the dryer.<sup>6</sup> The Use & Care Guide also contains warning information in sections that address protecting children and preventing injury.<sup>7</sup> Further, consumers are warned, "To prevent injury and damage to the dryer: All repairs and servicing must be performed by an authorized service unless specifically recommended in this Owner's Guide."<sup>8</sup>

The Use & Care Guide provides consumers with guidelines in the "Drying Procedures" section, including the instruction to "Check that lint screen is clean and in place" prior to loading the dryer.<sup>9</sup> In the "Care and Cleaning" section consumers are instructed to "Clean the lint screen after every load," and are provided with instructions and an illustration of how to clean the lint screen.<sup>10</sup> Consistent with information provided in the "Important Safety Instructions" section of the guide, consumers are instructed not to operate the dryer without the lint screen in place, and to have an authorized service clean the dryer cabinet interior and exhaust duct every 18 months as "[a]n excessive amount of lint build-up could result in inefficient drying and possible fire hazard."<sup>11</sup>

Additional safety information is contained in the Operating Instructions, which instruct the user to read the Use & Care Guide before operating the dryer.<sup>12</sup> Following the safety alert symbol and the word "WARNING" it warns users to reduce the risk of fire, to "read the IMPORTANT SAFETY INSTRUCTIONS in your dryer Use and Care Guide before operating this appliance." The section "Operating Steps" contains steps to take to use the dryer, including checking that the lint screen is clean and in place prior to loading the dryer and cleaning the lint screen after every load. Users are directed to the "Drying Procedures" section of the user's manual for more detailed information. Additional information about Temperature Selection, Cycle Selection, and Energy Saving Tips is included in the Operating Instructions, as is a warning to not use heat to dry items containing foam rubber, plastic, or similarly textured, rubber-like materials.

Electrolux also provided specific warnings on the dryer.<sup>13</sup> The label has the safety alert symbol and the word "WARNING" followed by the information "To avoid fire hazard, personal injury, or fire damage - including spontaneous combustion" and instructions to "Clean lint screen before or after each load" and not to dry foam rubber or similar materials, or articles that have been exposed to flammable/combustible liquids or solids. The label warns, "CAUTION - A clothes dryer produces combustible lint and must be exhausted outdoors. Care should be taken

<sup>5</sup> Use & Care Guide, p. 3  
<sup>6</sup> Use & Care Guide, p. 3  
<sup>7</sup> Use & Care Guide, p. 4  
<sup>8</sup> Use & Care Guide, p. 4  
<sup>9</sup> Use & Care Guide, p. 5  
<sup>10</sup> Use & Care Guide, p. 7  
<sup>11</sup> Use & Care Guide, p. 7  
<sup>12</sup> Operating Instructions  
<sup>13</sup> Label B 131782, Rev B

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to prevent the accumulation of lint around the exhaust opening, and in the surrounding area." A telephone number was also included on the labels which users could call if they had any questions about the appliance.

In addition, a Customer Instruction Check List is provided with the dryer, notifying the user to "Follow This Check List For Best Drying Performance," to "Read the Dryer Owner's Guide and Operating Instructions" and to "ALWAYS clean your lint filter BEFORE every drying cycle" with an accompanying illustration.<sup>14</sup>

It is recognized by the National Fire Protection Association (NFPA) and the Consumer Product Safety Commission (CPSC) that lint accumulation within clothes dryers may cause excessive heat build-up, possibly resulting in fire. For example, the NFPA reported that for home fires from 2003-2006, the most common factor contributing to the ignition of clothes dryers was the "failure to clean."<sup>15</sup> The NFPA includes several safety tips in its report, including cleaning the lint filter before or after each load. The CPSC has also recognized this problem and recommends that users of clothes dryers clean the lint screen/filter before or after drying each load of clothes, to clean behind the dryer where lint can build up, and to have a service person clean the interior of the dryer chassis periodically to minimize the amount of lint accumulation.<sup>16</sup> Appropriately, Electrolux warnings and safety information specifically address a variety of factors associated with clothes dryer fires, including cleaning of the dryer.

#### Analysis of Adequacy of Warnings and Safety Information

ANSI Z21.5.1-2002, the American National Standard for Gas Clothes Dryers, is a voluntary standard that provides guidance for the safety information provided on and with gas dryers. The safety information provided on and with the dryer is consistent with the recommendations in ANSI Z21.5.1-2002. Although Plaintiff's experts Ronald Parsons and Michael Stoddard are critical that the safety information provided by Electrolux did not comply with UL 2158,<sup>17</sup> this standard is not applicable to this incident dryer. UL 2158 is a voluntary standard for electric clothes dryers and the dryer at the Harcourt/Parsons/Adamson residence was a gas dryer.

The safety information contained within the Electrolux installation instructions and on the product clearly communicates the need for proper installation and exhaust, the need to consistently clean and keep the dryer free of lint, and to have authorized personnel clean the dryer approximately every 18 months. Where applicable, these sources also provide the appropriate actions to take and possible consequences of failing to take these actions.

<sup>14</sup> Label B 131782, Rev A  
<sup>15</sup> Hall, 2009  
<sup>16</sup> CPSC Document # 5622, June 2003  
<sup>17</sup> Report of Parsons and Stoddard, p. 101

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The safety information provided with the Kenmore dryer identifying fire-related hazards and appropriate installation and cleaning procedures provided by Electrolux was reasonable and adequate in terms of its location, content, and format and was consistent with applicable industry standards, guidelines, and practices.

Mr. Parsons and Mr. Stoddard recommend additional warnings as part of their redesign to address the same potential hazards. For example, in their report they call for the addition of three lights to the front of the dryer - one each next to the messages "CLEAN EXHAUST SYSTEM" or "CHECK EXHAUST SYSTEM," "SERVICE DRYER SOON," and "SERVICE DRYER NOW."<sup>18</sup> They propose that an active monitoring system of the dryer would determine which, if any, of these lights should be illuminated, and could simultaneously disengage the heating element, preventing the dryer from producing any heat.

The pairing of an "interlock" that disengages the heating element as part of the proposed monitoring system of either the air-flow or "maintenance" schedule as put forward by Mr. Parsons and Mr. Stoddard raise a number of potential concerns from a human factors perspective. From the description offered in their report, it appears that the proposed interlock would disengage the heating element, but otherwise allow for the operation of the dryer. Though Mr. Parsons and Mr. Stoddard claim that users would then respond a certain way to this interlock and warning system (i.e. contacting an authorized service person to disassemble and inspect the dryer), they offer nothing to support that users would act in that manner. Users may not initially notice or understand that the dryer is not producing heat or what is preventing it from doing so. Indeed, users may continue to use the dryer. In practice, such interlock designs have actually been met with considerable user opposition as well as various overrules to invalidate these interlocks. For example, in response to attempts to prevent the operation of automobiles by drivers who did not have their safety belts buckled, vehicle manufacturers implemented an interlock system. However, ultimately, Congress passed legislation prohibiting such a system and the National Highway Traffic Safety Administration explicitly removed such an interlock as an option to manufacturers, specifically citing users' negative response to this design.<sup>19</sup> Users have intentionally defeated interlocks for other types of products, providing additional examples of consumer resistance to these types of design features. Furthermore, in 2010, Consumer Reports concluded from their testing on duct-blockage indicators that "current indicators are too inconsistent to trust."<sup>20</sup>

While Dr. Dorris acknowledges that noncompliance with warnings does not necessarily make a warning inadequate, he opines that the warnings provided by Electrolux are inadequate because they require "excessive or disproportionate measures for compliance."<sup>21</sup> He does not propose alternative warnings that would overcome his concerns and would have prevented or reduced

<sup>18</sup> Report of Parsons and Stoddard, pp. 85-89  
<sup>19</sup> PL 93-492, 39 FR 28340, 39 FR 10272  
<sup>20</sup> Consumer Reports (July 2010)  
<sup>21</sup> Report of Alan Dorris, p. 6

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the likelihood of this event. The purpose of a warning is to inform a user of possible negative consequences as a result of taking or failing to take some action. However, research into the effect that warnings and safety information have on human behavior has shown warnings cannot motivate or force compliance.<sup>27</sup> The fact that some consumers may not follow presented safety information does not make that information inadequate.

In contrast to Dr. Dorris' statement that appliances are typically serviced on an as-needed basis, manuals for other appliances as well as motor vehicles provide recommendations about regular service schedules.<sup>28</sup> Dr. Dorris indicates that among other factors, it is not realistic for Electrolux to expect consumers to remember the recommended service interval.<sup>29</sup> The time frame provided by Electrolux does not require consumers to track numbers of loads or other indicators of the amount of use of the dryer. Information provided in the Use & Care Guide consistently specifies that the unit be serviced at 18-month intervals and consumers can track the time interval using any number of methods. The applicable standard for the incident dryer, ANSI Z21.5.1-2002, recommends that dryer instruction manuals include instructions about the need for "periodic examination of exhaust systems".<sup>30</sup>

Dr. Dorris opines that information Electrolux provided to its authorized servicers was not sufficient to inform them of how to clean the dryer.<sup>31</sup> However, this opinion is not relevant to this case as the Haroutounyan/Adanian family provides no testimony that suggests that they attempted to contact a service technician to clean their dryer and/or ductwork and that it was performed improperly.

#### Knowledge and Behavior of Dryer Owners, Mr. Haroutounyan and Ms. Adanian

Mr. Haroutounyan and Ms. Adanian purchased the Kenmore dryer at Sears on April 13, 2003 and had it installed in their townhouse in Glendale, California, where they had lived since 1993.<sup>32</sup> Ms. Adanian testifies that she did all the laundry in the home and that she dried three to four loads per week.<sup>33</sup> She testifies that she cleaned the lint screen after more than 90 percent of the loads she dried.<sup>34</sup> Mr. Haroutounyan testifies that although his wife was the primary user of the dryer, he used the dryer and cleaned the lint screen about two to four times per year.<sup>35</sup> Ms.

<sup>27</sup> e.g., Ayres et al., 1994

<sup>28</sup> Report of Alan Dorris, p. 5; e.g., American Standard User's Information Guide for Gas Furnaces (2002); Installation, Operation, and Service Manual, Residential Storage Type Gas Water Heater (2000); Toyota Camry Owner's Guide (2006).

<sup>29</sup> Report of Alan Dorris, p. 5

<sup>30</sup> ANSI Z21.5.1-2002, Section 1.22.8c.

<sup>31</sup> Report of Alan Dorris, pp. 5-6

<sup>32</sup> Haroutounyan, pp. 10-12, 14-22, 27; Adanian, pp. 11, 18-19, 36

<sup>33</sup> Adanian, pp. 38-39; Haroutounyan, pp. 21-22; 48

<sup>34</sup> Adanian, p. 24

<sup>35</sup> Haroutounyan, p. 49

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#### List of Materials

- Depositions
  - o Mel Haroutounyan 10/21/11
  - o Aleenoth Adanian 10/21/11
  - o Larry Brown 05/16/11
- Complaint for Property Damage
- Glendale Fire Department Incident Report (Incident GLN0814580)
- Kenmore Dryer Use & Care Guide - P/N 134151000 (03/09)
- Kenmore Gas & Electric Dryer Installation Instructions - P/N 134199600 (02/11)
- Operating Instructions - P/N 134187400 (02/10)
- Warning labels (B 1318241, Rev B; B 1317832, Rev F; B 1314637, Rev D)
- Check List (B 1317862, Rev A)
- Wiring Diagrams (134061500 B)
- Sears HomeCentral Repair Parts List - P/N 134195500 (11/02)
- Report of Alan Dorris 04/27/12
- Report of Ronald Parsons & Michael Stoddard, Jr. 04/27/12, with Appendices I-V
- Report of Larry Brown 02/13/09
- Color photos taken by Larry Brown
- Purchase information from Sedgwick CMS
- ANSI Z21.5.1-2002/CSA 7.1-2002, American National Standard for Gas Clothes Dryers Volume 1, Type I Clothes Dryers, Cleveland, OH: CSA America, Inc.
- Ayres, T. J., Gross, M. M., Wood, C. T., Hors, D. P., Beyer, R. R., & Robinson, J. N. (1994). What is a warning and when will it work? In K. R. Laughery Sr., M. S. Wogalter, & S. L. Young (eds.), *Human factors perspective on warnings: Selections from Human Factors and Ergonomics Society annual meetings 1988-1993* (pp. 1-5). Santa Monica, CA: Human Factors and Ergonomics Society.
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- Hall Jr., J. R. (2009). *Home fires involving clothes dryers and washing machines*. Quincy, MA: National Fire Protection Association.
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- Product manuals for exemplar products

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TO PROTECTIVE ORDER

EHF LARSON 073876

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TO PROTECTIVE ORDER

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Cathy Muller Diehl, Esq.  
June 4, 2012  
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Adanian testifies that she does not recall the incident dryer ever being serviced prior to the fire.<sup>36</sup>

According to the testimony of Mr. Haroutounyan, he and his wife received a manual when they purchased the dryer.<sup>37</sup> Ms. Adanian testifies that she did not read the manual or documents that came with the dryer prior to the fire.<sup>38</sup> Mr. Haroutounyan states that he read the manual and instructions but that he does not recall what they said about cleaning any part of the dryer, including the lint screen and the exhaust system, or having the dryer serviced.<sup>39</sup> In this instance, there is no testimony about whether Mr. Haroutounyan and Ms. Adanian noticed or read the labels on the dryer.

#### Summary of Opinions and Conclusions

In summary, based on the information cited above and my education, training, and experience, I offer the following opinions with a reasonable degree of scientific certainty:

- Warnings and safety information about factors associated with dryer fires and cleaning provided by Electrolux were reasonable and adequate in terms of location and content.

Sincerely,

Christine T. Wood

Christine T. Wood, Ph.D.  
Principal Scientist, Director, Human Factors  
(650) 688-7134 direct  
(650) 328-2981 fax  
[cwood@cep.com](mailto:cwood@cep.com)

Enclosures (1)

<sup>36</sup> Adanian, pp. 30, 39-42

<sup>37</sup> Haroutounyan, pp. 24-25

<sup>38</sup> Adanian, pp. 23-25

<sup>39</sup> Haroutounyan, pp. 24-25

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# Exponent

Failure Analysis Associates

Exponent  
1000 University Avenue, Suite 100  
Berkeley, CA 94702  
Tel: 415.863.1000  
Fax: 415.863.1001  
www.exponent.com

## Christine T. Wood, Ph.D. Principal

### Professional Profile

Dr. Christine Wood is a Principal Scientist and Director of Exponent's Human Factors practice. She has spent over 20 years researching the impact of safety- and health-related information on human behavior and injury reduction. She has applied the area of human information processing, involving aspects of attention, learning, memory, decision-making, and behavioral response, to risk communications. She has investigated and identified factors that influence compliance with warnings and developed a scientific framework for predicting effectiveness. She has evaluated a wide variety of strategies for dissemination of warnings. Her work includes the analysis, evaluation, and development of safety information for many different products, such as consumer products, medical devices and medications, workplace equipment, and motor vehicles. She has also studied and published papers on the historical use of warnings on products in the United States throughout the twentieth century.

Much of Dr. Wood's work focuses on issues related to child safety. She has applied her knowledge of child development to the analysis of accident patterns that are unique to children. As part of her research, she has conducted numerous studies involving the testing of hundreds of children to better understand their capabilities and methods of interacting with products. The results of her studies have been used in the design of products, development of product design standards, and the evaluation of parents regarding child hazards and the strategies they use to reduce child injury.

Dr. Wood has analyzed injury/illness, adverse event, and accident data available from a wide range of sources such as those gathered by government agencies. She has used quantitative analyses to develop and assess the effectiveness of safety information and dissemination methods. She has presented quantitative analyses of accident patterns for individual products to regulatory agencies for consideration in potential product recalls. She has designed and collected data using written questionnaires, interviews, and group discussions.

Prior to joining Exponent, Dr. Wood held research positions with companies RMC Research Corporation, SRA Technologies, Inc., and the Institute for Mathematical Studies in the Social Sciences where she conducted studies in the area of measuring the effectiveness of education and training programs and developing a federally-mandated evaluation systems for education programs used nationwide.

### Academic Credentials and Professional Honors

Ph.D., Experimental Psychology, Stanford University, 1974  
B.A., Psychology, Stanford University (with Distinction and Honors), 1971

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### Publications

Sala JB, Nichols BA, Muhammad R, Lakhiani SD, Rauschenberger R, Wood CT. Government warnings, safety information: A comparison of inter-agency regulations and guidance. In: *Advances in Human Factors, Ergonomics, and Safety in Manufacturing and Service Industries*. Karwowski W, Salvendy G (eds), pp. 1047-1056, CRC Press, 2010.

Huntley-Fenner G, Wood CT, Sala JB. Study of the impact of California's Proposition 65 warnings on safety-related awareness and behaviors. *Society for Risk Analysis Proceedings Abstracts*, San Antonio TX, December 9-12, 2007.

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Sanders KJ, Wood CT, Sala JB. Human factors and the design of medical devices. In: *Bringing Your Medical Device to Market*, Food and Drug Law Institute, Second Edition. Reis JB (ed), pp. 197-204, Washington DC, 2006.

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Arndt T, Ayres T, McCarthy R, Schmidt R, Wood CT, Yeung D. Warning labels and accident data. *Proceedings, Human Factors and Ergonomics Society Annual Meeting*, pp. 550-553, Chicago, IL, October 1998.

Humphrey D, Murray JM, Wood CT, Ayres TJ. Human factors issues in the design of medical devices. *Proceedings, Medical Design & Manufacturing Conference*, pp. 116-1-116-6, January 1999.

Ayres TJ, Wood CT, Schmidt RA, McCarthy RL. Risk perception and behavioral choice. *International Journal of Cognitive Ergonomics* 1998; 2(1-2):35-52.

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Murray J, Ayres TJ, Kelsh M, Wood CT. Mobile telephones and road accidents: A review of some issues. *Proceedings, Silicon Valley Ergonomics Conference and Exposition*, pp. 194-198, 1998.

Wood CT, Arndt SR, McCarthy RL. Using risk analysis to reduce the hazards on playgrounds. *Proceedings, National Manufacturing Week Conference*, Chicago, IL, March 1998.

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Wood CT, Canawara AB, Tallmadge GK, Fagan BM. Further documentation of State ESEA Title I Reporting Models and their technical assistance requirements: Phase I, Part 2. RMC Research Corporation, August 1976.

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Horst DP, Tallmadge GK, Wood CT. Measuring achievement gains in educational projects. RMC Research Corporation, October 1974; also published as "A Practical Guide for Measuring Project Impact on Student Achievement," Stock No. 1780-01460, U.S. Government Printing Office, Washington, DC.

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Byer RR, Ayres TJ, Wood CT. Applying basic principles of human factors and ergonomics. 67th Annual Conference and Exposition of the Water Environment Federation, No. 947801, Chicago, IL, October 1994.

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Christian T. Wood, Ph.D.  
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Wood CT, McCarthy RI, Ayres TJ. Human subject testing in the development of warning labels. American Bar Association National Institute, Product Warnings, Instructions and User Information, Washington, DC, January 1994.

#### Editorial Boards

- Member of Editorial Board for *Journal of Children's Health*, 2003-2005

#### Professional Affiliations

- Human Factors and Ergonomics Society (member)
- Society for Risk Analysis (member)
- American Educational Research Association (member)

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#### List of Materials

- Depositions
  - Mei Haroutounyan 10/21/11
  - Alenoush Adamian 10/21/11
  - Larry Brown 05/16/11
- Complaint for Property Damage
- Glenlake Fire Department Incident Report (Incident GLK0814580)
- Kenmore Dryer Use & Care Guide - P/N 134191000 (0209)
- Kenmore Gas & Electric Dryer Installation Instructions - P/N 134199600 (0211)
- Operating Instructions - P/N 134187400 (0210)
- Warning labels (B 1318241, Rev B; B 1317832, Rev F; B 1314637, Rev D)
- Check List (B 1317862, Rev A)
- Wiring Diagrams (134061500 B)
- Sears HomeCentral Repair Parts List - P/N 134195500 (11/02)
- Report of Alan Dorris 04/27/12
- Report of Ronald Parsons & Michael Stoddard, Jr. 04/27/12, with Appendices I-V
- Report of Larry Brown 02/13/09
- Color photos taken by Larry Brown
- Purchase information from Sedgwick CMS
- Sears Protection Agreements brochure, dated May 2011
- Extended Warranty Agreement Screenshot for Alenoush Adamian
- Photograph of Sears "800" number by Michael Stoddard
- Deposition of Alan Dorris 05/05/12, rough and final versions

#### Exponent<sup>®</sup> Failure Analysis Associates<sup>®</sup>

April 27, 2011

Sarah T. MacGill, Esq.  
Riley Bennett & Egloff, LLP  
141 S. Washington Street, Fourth Floor  
Indianapolis, IN 46204

Subject: State Farm v/o Stobach v Electrolux  
Project No. 1103525

Dear Ms. MacGill,

I am writing to summarize the work undertaken by Exponent<sup>®</sup> Failure Analysis Associates in connection with human factors issues in the above-referenced case and the conclusions reached on the basis of work to date.

I received a Bachelor's Degree in psychology with Distinction and Honors from Stanford University and hold a Ph.D. in experimental psychology also from Stanford University. I am a Principal Scientist and Director of the Human Factors Practice at Exponent. I am involved in the analysis and evaluation of human behavior in response to information intended to change behavior and reduce injury rates. I have studied the area of human information processing, including the specific context of processing safety information associated with products under various circumstances. I have written extensively on the topics of human information processing, safety information, and warning label development. I have applied experimental design and statistics for the purpose of measuring the effectiveness of warnings. I am a member of the Human Factors and Ergonomics Society, the American Educational Research Association, and the Society for Risk Analysis. A copy of my resume and my list of testimony for the past four years is attached.

#### Background of Scientific Studies of Risk Communication

Over the past 30 years, there has developed a sizable literature on behavioral responses to risk communications. Significant reviews of and annotated guides to the literature for different periods and content areas can be found in McCarthy et al. (1984), Ayres et al. (1994, 1998), Miller & Lehto (2001), and DeJoy et al. (2006). Key factors considered in the scientific literature include the likely effectiveness of providing a warning about a particular hazard (e.g., DeJoy et al., 2006; Seemore et al., 1989; Ayres et al., 1994; Arndt et al., 1998; Dorris &



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Sarah T. MacCall, Esq.  
April 27, 2011  
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### Summary of Opinions and Conclusions

In summary, based on the information cited above and my education, training, and experience, I offer the following opinions with a reasonable degree of scientific certainty:

- Warnings and safety information about factors associated with dryer fires provided by Electrolux were reasonable and adequate in content, location, and format and were not defective.

Sincerely,

Christine Wood

Christine T. Wood, Ph.D.  
Principal Scientist  
Director, Human Factors  
(650) 688-7124 direct  
(650) 328-2981 fax  
cwood@exponent.com

ENCLOSURES (2)

Sarah T. MacGill, Esq.  
April 27, 2011  
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## List of Materials

- **Complaint**
- **Orco Fire Department report**
- **Owner's Guide, Dryer**
- **Installation Instructions, Gas & Electric Dryer (PN 134196102 (02/11))**
- **Warning labels:**
  - B 1317150
  - B 1317832
  - B 1314637
  - B 1317860
- **Operating Instructions**
- **Invoice from Higley TV**
- **State Farm's Expert Reports:**
  - Report by Skipper Shand, dated 02/12/07, CV
  - Report by Jack Sanderson, dated 02/17/11, CV
  - Report by Scott Jones, dated 02/28/11, CV
  - Report by Ronald Parsons and Michael Stoddart, dated 02/25/11 and CV's
- **American National Standard for Product Safety Signs and Labels (ANSI Z555.4-2002).**  
2002. Cleveland, Ohio: CSA International.
- **CPSC Document # 5022, June 2003. *Overheated clothes dryers can cause fires.*** Retrieved on 03/07/2010 from <http://www.cpsc.gov/cpscpub/pubs/5022.html>
- **Ayres, T. J., Gross, M. M., Wood, C.T., Horst, D. P., Beyer, R. R., & Robinson, J. N. (1996). What is a warning and when will it work?** In K. R. Laughery Sr., M. S. Wogalter, & S. L. Young (eds.), *Human factors perspective on warnings. Selections from Human Factors and Ergonomics Society annual meetings 1980-1993* (pp. 1-5). Santa Monica, CA: Human Factors and Ergonomics Society.
- **Hall Jr., J. R. (2009). *Home fires involving clothes dryers and washing machines.*** Quincy, MA: National Fire Protection Association.

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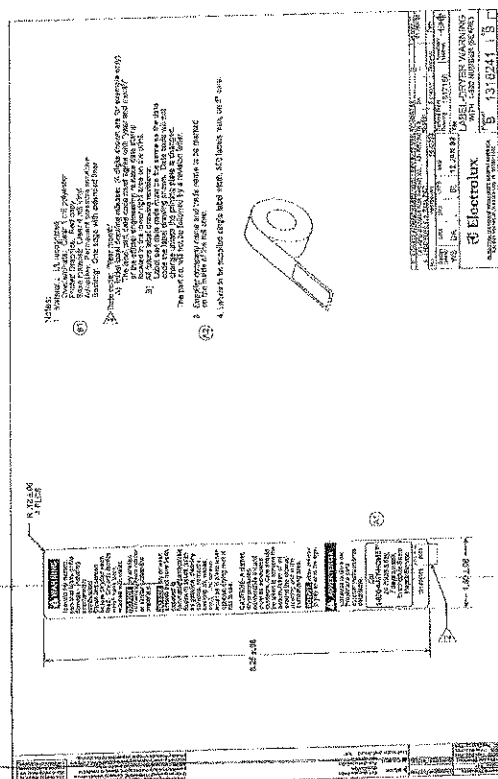
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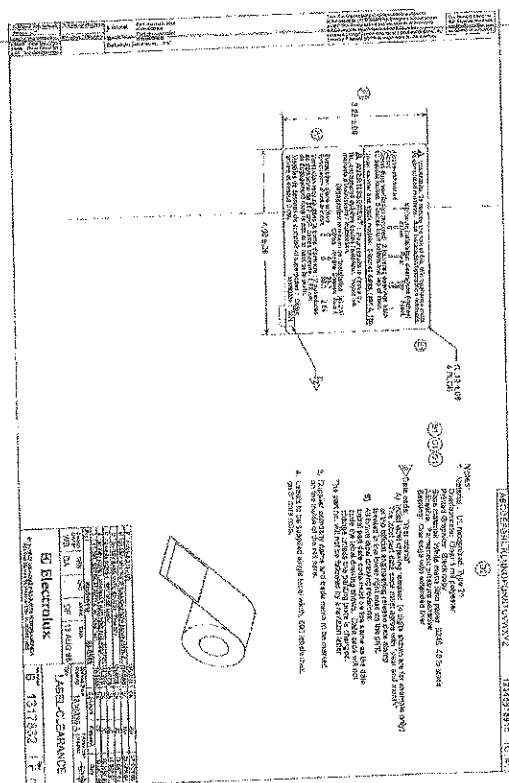
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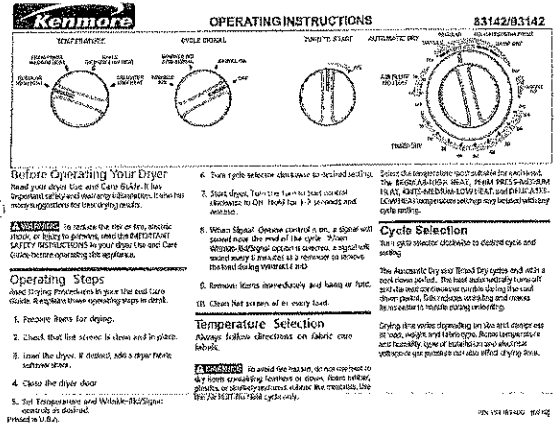
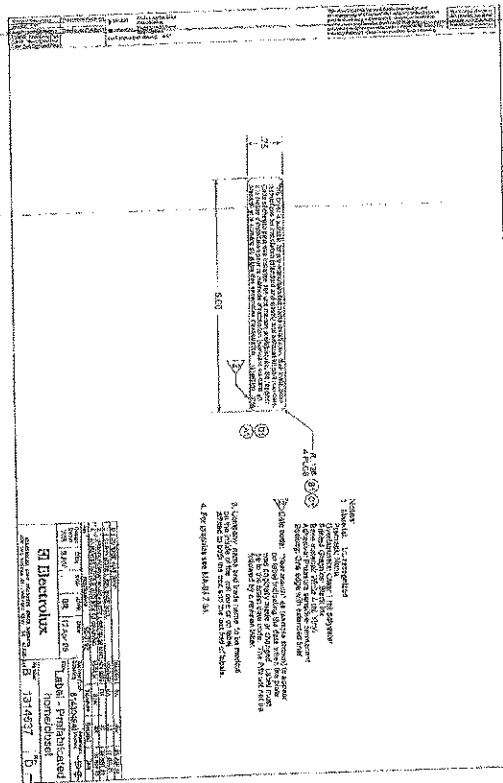
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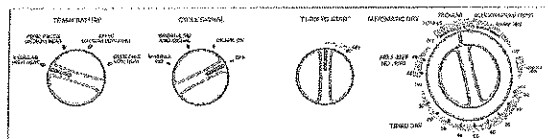
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#### Cycle Selection (continued)

##### Automatic Dry Cycle

- **WARMUP** - This setting is best for most loads. Select the WARMUP button on the temperature selector.
- **REGULAR** - This setting is best for cotton items. Select the REGULAR button on the temperature selector.
- **PERMANENT PRESS** - This setting is best for synthetic, knit, or permanent press items. Select the PERMANENT PRESS button on the temperature selector.
- **DELICATE** - This setting is best for delicate items. Select the DELICATE button on the temperature selector.

- **DAMP DRY** - This setting is best for items that are slightly damp. Select the DAMP DRY button on the temperature selector.
- **WARMUP** - This setting is best for most loads. Select the WARMUP button on the temperature selector.
- **REGULAR** - This setting is best for cotton items. Select the REGULAR button on the temperature selector.
- **PERMANENT PRESS** - This setting is best for synthetic, knit, or permanent press items. Select the PERMANENT PRESS button on the temperature selector.
- **DELICATE** - This setting is best for delicate items. Select the DELICATE button on the temperature selector.

#### Timed Dry Cycle

This cycle provides up to 99 minutes of drying time at the temperature selection of your choice.

#### Energy Saving Tips

- Keep the lint screen clean and replace the dryer vent.
- Don't overload the dryer. Overloading can cause items to dry unevenly and increase drying time.
- Dry only full loads. Dryer time and heat costs are reduced when you dry full loads.
- Avoid over-drying. Over-drying can cause items to become brittle and shrink.
- Use a lower heat setting to save energy and reduce wrinkling.
- Open the dryer door frequently to check on items and remove them when they are dry.

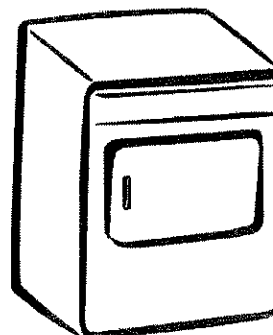


#### DRYER

##### Use & Care Guide

#### SECADORA

##### Manual de Uso & Mantenimiento

Sears, Roebuck and Co., Hoffman Estates, IL 60179 U.S.A.  
www.sears.com

PH124191000 (02/05)

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EHP LARSON 073900

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EHP LARSON 073901



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Care and Cleaning	7
Avoid Service Checklist	8
English	9
Service	Back Cover

**Product Record**

In the space below, record the date of purchase, model and serial number of your product. You will find the model and serial number printed on an identification plate located on the left side of the door opening.

Model No. 417

Date of Purchase           

Serial No.           

Save these instructions and your sales receipt for future reference.

**Dryer Warranty****Full One Year Warranty on Mechanical and Electrical Parts**

For one year from the date of purchase, if this Dryer is installed and operated according to the instructions in the Use and Care Guide, Operating Instructions, and Installation Instructions, Sears will repair or replace any of its mechanical or electrical parts if they are defective in material or workmanship.

**Warranty Restriction**

If this Dryer is used for any purpose other than Private Family Use, all warranty coverage is effective for only 90 days.

**Warranty Service**

Warranty service is available by contacting your nearest Sears Service Center in the United States.

This warranty applies only while this Dryer is in use in the United States.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Sears, Roebuck and Co., Dept. 817WA, Hoffman Estates, IL 60179

**Master Protection Agreement**

In the U.S.A.

Congratulations on making a smart purchase. Your new Kenmore® appliance is designed and manufactured for years of dependable operation. But like all products, it may require preventive maintenance or repair from time to time. That's where having a Master Protection Agreement can save you money and aggravation.

Purchase a Master Protection Agreement now and protect yourself from unexpected hassle and expense.

- The Master Protection Agreement also helps extend the life of your new appliance. Here's what's included in the Agreement:
- ✓ Expert service by our 12,000 professional repair specialists
  - ✓ Unlimited service and no charge for parts and labor on all covered repairs
  - ✓ "No-deductible" guarantee - replacement of your covered product if more than three product failures occur within 12 months
  - ✓ Product replacement if your covered product can't be fixed
  - ✓ Annual Preventive Maintenance Check at your request - no extra charge
  - ✓ Fast help by phone - non-technical and instructional assistance on products repaired in your home, plus convenient repair scheduling
  - ✓ Power surge protection against electrical damage due to power fluctuations
  - ✓ Rental reimbursement if repair of your covered product takes longer than promised

Once you purchase the Agreement, a remote phone call is all that it takes for you to schedule service. You can call drydays day or night, or schedule a service appointment online.

Sears has over 12,000 professional repair specialists, who have access to more than 4.5 million quality parts and accessories. That's the kind of professionalism you can count on to help prolong the life of your new purchase for years to come. Purchase your Master Protection Agreement today!

Some limitations and exclusions apply. For prices and additional information, call 1-800-827-6655.

**Sears Installation Service**  
For Sears guaranteed professional installation of home appliances and items like garage door openers and water heaters, in the U.S.A. call 1-800-4-MY-HOME®

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TO PROTECTIVE ORDER

EHP LARSON 073902

**WARNING** For your safety, the information in this manual must be followed to minimize the risk of fire or explosion or to prevent property damage, personal injury or loss of life.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
  - WHAT TO DO IF YOU SMELL GAS:**
    - Do not try to light any appliances.
    - Do not touch any electrical switch; do not use any phone in your building.
    - Clear the room, building or area of all occupants.
    - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
    - If you cannot reach your gas supplier, call the fire department.
- Installation and service must be performed by a qualified installer, service agency or the gas supplier.

Your safety and the safety of others is very important.

We have provided many important safety messages in the Use and Care Guide, Operating Instructions, Installation Instructions and on your appliance. Always read and obey all safety messages.

**CAUTION** This is the safety alert symbol. This symbol alerts you to hazards that can kill or hurt you or others. All safety messages will be preceded by the safety alert symbol and the word "DANGER" or "WARNING". These words mean:

**DANGER** You will be killed or seriously injured if you don't follow instructions.

**WARNING** You can be killed or seriously injured if you don't follow instructions.

All safety messages will identify the hazard, tell you how to reduce the chance of injury, and tell you what can happen if the instructions are not followed.

**Caution** A pedestal accessory specifically designed for this dryer may be used when electing the dryer for type of use.

Failure to use accessories certified by the manufacturer could result in personal injury, property damage or damage to the dryer.

**Important Safety Instructions**

Read all instructions before using this dryer.

**WARNING** To reduce the risk of fire, electrical shock, or injury to persons when using this dryer, comply with the basic warnings listed below.

**WARNING** Failure to comply with these warnings could result in serious personal injuries.

**Prevent Fire**

**WARNING** Do not dry items that have been previously cleaned in, soaked in, or spotted with gasoline, cleaning solvents, kerosene, cooking oils, waxes, etc. Do not store these items on or near the dryer. These substances give off vapors that could ignite or explode.

**WARNING** To prevent fire, do not use heat to dry items containing plastic, foam rubber or similarly textured rubber-like materials, or items containing fasteners or down. Use Air Fluff (No Heat) only.

**WARNING** Clean the lint screen before or after each load. The interior of the dryer, lint screen housing and exhaust duct should be cleaned approximately every 18 months by qualified service personnel. An excessive amount of lint build-up in these areas could result in inefficient drying and possible fire. See Care and Cleaning, page 7.

**WARNING** Do not operate the dryer if the lint screen is blocked, damaged or missing. Fire hazard, overheating and damage to fabrics can occur. If your dryer has a drying rack, always replace the lint screen when finished using the drying rack.

**WARNING** Keep area around the exhaust opening and surrounding areas free from the accumulation of lint, dust and dirt.

**WARNING** Do not obstruct the flow of venting air. Do not stack or place laundry or other rugs against the front or back of the dryer.

**WARNING** Do not spray any type of aerosol into, on or near dryer at any time.

**WARNING** Do not use fabric softeners or products to eliminate static unless recommended by the manufacturer of the fabric softener or product.

**WARNING** Failure to comply with these warnings could result in fire, explosion, serious bodily injury and/or damage to the rubber or plastic parts of the dryer.

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EHP LARSON 073903

This Use and Care Guide provides general operating instructions for your dryer. It also contains information about features for several other models. Your dryer may not have every feature included.

Use this dryer only as instructed in this Use & Care Guide and the Operating Instructions included with your dryer.

**Protect Children**

**WARNING** Do not allow children to play on or in the dryer. Close supervision of children is necessary when the dryer is used near children. As children grow, teach them the proper, safe use of all appliances.

**WARNING** Destroy the canopy, plastic bag and other packing materials after the dryer is unpacked. Children might use them for play. Canopies covered with rugs, bedspreads or plastic sheets can become a child's chamber.

**WARNING** Keep laundry products out of children's reach. To prevent personal injury, observe all warnings on product labels.

**WARNING** Before the dryer is removed from service or discarded, remove the dryer door to prevent accidental entrapment.

**WARNING** Failure to comply with these warnings could result in serious personal injuries.

**Prevent Injury**

**WARNING** To prevent shock hazard and assure stability during operation, the dryer must be installed and electrically grounded by a qualified service person in accordance with local codes. Installation instructions are packed in the dryer for the installer's reference. Refer to INSTALLATION INSTRUCTIONS for detailed grounding procedures. If the dryer is moved to a new location, have it checked and reinstalled by a qualified service person.

**WARNING** To prevent personal injury or damage to the dryer, the electrical power cord of a gas dryer must be plugged into a properly grounded and grounded 3-prong outlet. The third grounding prong must never be removed. Never ground the dryer to a gas pipe. Do not use an extension cord or an adapter plug.

**WARNING ALWAYS** disconnect the dryer from the electrical supply before attempting any service or cleaning. Failure to do so can result in electrical shock or injury.

**WARNING** Do not use any type of spray cleaner when cleaning dryer interior. Hazardous fumes or electrical shock could occur.

**WARNING** To prevent injury, do not reach into the dryer if the drum is moving. Wait until the dryer has stopped completely before reaching into the drum.

**WARNING** To prevent injury and damage to the dryer:

- All repairs and servicing must be performed by an authorized service person unless specifically recommended in this Owner's Guide. Use only authorized factory parts.
- Do not tamper with controls.
- Do not install or store the dryer where it will be exposed to the weather.

**WARNING** A thermal limiter switch automatically turns off the motor in the unlikely event of an over-heated situation (electric dryers only). A service technician must replace the thermal limiter switch after correcting the fault.

**WARNING** Failure to comply with these warnings could result in serious personal injuries.

**SAVE THESE INSTRUCTIONS**

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EHP LARSON 073904

**Drying Procedures**

- Follow the guidelines below for preparing the load for drying.
- Read the Operating Instructions card for operating your specific model.
- Always read and follow fabric care labels and laundry product labels.

**WARNING** To reduce the risk of fire, electrical shock, or injury to persons, read Important Safety Instructions, pages 3-4, before operating this dryer.

**1. Prepare items for drying.**

- Dry items of similar fabric, weight and construction in the same load.
- Separate dark items from light-colored items. Separate items that shed lint from those that attract lint. If an item sheds lint, turn it inside out.
- Be sure buttons, buttons and trim are fastened and don't damage the drum finish. Close zippers, fasten hooks and Velcro®-like fasteners. The strings and tassels to prevent snagging and tangling.
- If possible, turn pockets inside out for even drying.
- Check for stains which may not have been removed in washing. Dryer heat may permanently set some stains. Repeat stain removal process before drying.
- Place small items in a mesh bag to prevent tangling and for easy removal.

**2. Check that lint screen is clean and in place.**

- The average load will fill the drum 1/3 to 1/2 full. Items need room to tumble freely for even drying and less wrinkling. Do not overload dryer.
- When drying large items, dry only 2 or 3 at a time. Fill out the load with small and medium-sized items.
- For delicate or very small loads, add 2 lint-free towels for better drying, less wrinkling, and to prevent grease stains caused by fabric softener sheets.
- Do not overload items. Overdrying can cause wrinkling, shrinkage, hardening, and a build-up of static electricity, which can produce more lint.
- If desired, add a dryer fabric softener sheet.

**3. Load the dryer.**

- The average load will fill the drum 1/3 to 1/2 full. Items need room to tumble freely for even drying and less wrinkling. Do not overload dryer.
- When drying large items, dry only 2 or 3 at a time. Fill out the load with small and medium-sized items.
- For delicate or very small loads, add 2 lint-free towels for better drying, less wrinkling, and to prevent grease stains caused by fabric softener sheets.
- Do not overload items. Overdrying can cause wrinkling, shrinkage, hardening, and a build-up of static electricity, which can produce more lint.
- If desired, add a dryer fabric softener sheet.

**4. Close the dryer door and set dryer controls (some models).**

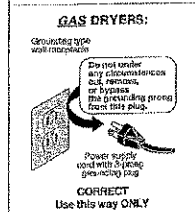
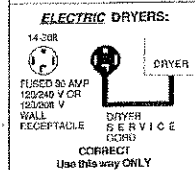
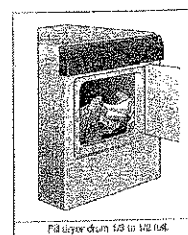
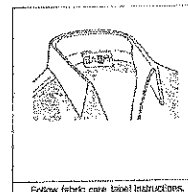
See Operating Instructions card for your specific model controls.

**5. Turn cycle selector clockwise to the desired setting.****6. Start the dryer.**

- Turn the START knob clockwise to ON. Hold for 1-2 seconds and release.
- To add or remove items when the dryer is running, open the door. The dryer will always stop when the door is opened. Allow the drum to come to a complete stop before reaching inside.
- To restart dryer, close the door then turn the START knob clockwise to ON. Hold for 1-2 seconds and release.

**7. When the cycle ends, remove items immediately and hang or fold.** If load is removed before the cycle ends, turn cycle selector to OFF.

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**NOTE:** The instructions appearing in this Use and Care Guide are not meant to cover every possible condition and situation that may occur. Common sense and caution must be practiced when installing, operating and maintaining your appliance.

ENGLISH

ENGLISH

## Features

## Cycle Signal Control (some models)

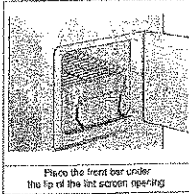
When the Cycle Signal Control is ON, a signal will sound at the end of each cycle and during the **Wrinkle-A-Rid** setting (some models). The volume is adjustable on some models.

## Drum Light (some models)

A drum light will come on whenever the door is opened to illuminate the dryer drum during loading and unloading. Closing the door turns off the light.

## Reversible Dryer Door

Your dryer is equipped with a reversible door. The door can be hinged on the right or left side. Refer to the **INSTALLATION INSTRUCTIONS** for directions on changing the door.



## Drying Rack (some models)

Use the drying rack to dry items which should not be tumble dried.

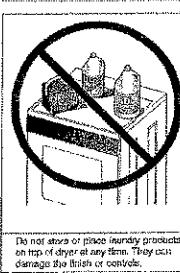
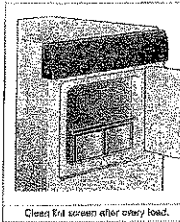
1. Open the dryer door and remove the lint screen.
2. Insert drying rack into the dryer drum. Place the front bar under the top of the lint screen opening.
3. Place items to be dried on top of the rack. Weight should not exceed 10 lbs. Leave space between items, but do not let items hang over the sides or through the grids. Do not tumble other items when using the drying rack.
4. Select a lined dry setting best suited for items being dried. Use only the Air Fluff (no heat) temperature setting for items containing plastic, foam rubber, rubber-like materials, feathers or down.
5. When items are dry, remove the rack and replace the lint screen. If lint screen is not in place, linting items could enter the exhaust system and cause damage to the dryer.

## Common Drying Problems

Many drying problems involve poor cleaning results, poor soil and stain removal, residues of lint and suds, and fabric damage. For satisfactory drying results, follow these suggestions provided by The Soap and Detergent Association.

PROBLEM	POSSIBLE CAUSES	SOLUTIONS	PREVENTIVE MEASURES
Greasy, oily stains	Fabric softener sheet.	Use fabric softener sheets with two washes. Rinse and rewash.	• Add a few bath towels to small loads for proper tumbling. • Some fabric softener sheets should be air dried. • Use proper drying temperature. • Place fabric softener sheet on top of load before starting the dryer.
Lint	• Overloading. • Overdrying causes static electricity. • Lint screens not clean when cycle begins. • Lint is attached to "folds."	• Reduce load size and remove using liquid fabric softener in the final rinse. • Or, add a fabric softener sheet and tumble without heat. • Use lint brush or roller to remove lint. • Use lint brush or roller to remove lint.	• Do not overload dryer. • Use fabric softener in washer or dryer to reduce static electricity. • Remove items when they are slightly damp to avoid overdrying. • Check that lint screen is clean and in place.
Pilling (fibers break off, ball up and cling to fabric)	Pilling is normal with synthetic and permanent press fabrics. This is due to abrasion from normal wear.	• Use a lint brush or cloth to remove pills.	• Use fabric softener to lubricate fibers. • When washing, use spray starch or fabric finish on collars and cuffs. • Turn items inside out to reduce abrasion.
Staining	• Overdrying.	• Irreversible condition.	• Follow fabric care label directions. • If staining is a concern, check load often. • Remove items while slightly damp and hang or lay flat to complete drying. • Block folds into shape.
Wrinkling	• Overloading. • Leaving items in dryer after cycle ends.	• Reduce load size and tumble at medium or hot heat for 5-10 minutes. • Remove items immediately. Hang or fold.	• Do not overload dryer. • Remove items as soon as cycle ends.

## Care and Cleaning



**WARNING:** To reduce risk of fire or serious injury to persons or property, comply with the basic warnings listed in Important Safety Instructions, pages 3-4, and those listed below.

- Before cleaning the dryer interior, unplug the electrical power cord to avoid electrical shock hazards.
- Do not use any type spray cleanser when cleaning dryer interior. Hazardous fumes or electrical shock could occur.

## Inside

- Clean the lint screen after every load. Lint build-up in the screen restricts air flow, which causes longer drying times. The screen is located at the bottom of the door opening. Remove by pulling straight up. Remove the lint and replace the screen.
- Occasionally a waxy build-up may form on the lint screen from using dryer-added fabric softener sheets. To remove this build-up, wash the lint screen in warm soapy water. Dry thoroughly and replace. Do not operate the dryer without the lint screen in place.
- If the dryer drum becomes stained from noncotton fabrics, clean the drum with a damp cloth and a mild liquid household cleanser. Remove cleanser residue before drying the next load.
- Every 18 months an authorized service should clean the dryer cabinet interior and exhaust duct. These areas can collect lint and dust over time. An excessive amount of lint build-up could result in inefficient drying and possible fire hazard.

## Outside

- Clean the cabinet with mild soap and water. Never use harsh, gritty or abrasive cleansers.
- If the cabinet becomes stained, clean with diluted chlorine bleach (1/2 cup (120 ml) in 1 quart (.95 liter) water). Rinse several times with clean water.
- Remove glaze residue from tape or labels with a mixture of warm water and mild detergent. Or, touch residue with the sticky side of the tape or label.
- Before moving the dryer, place a strip of cardboard or thin board under the front leveling legs to prevent damage to floor.

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## Avoid Service Checklist

Before calling for service, review this list. It may save both time and expense. The list includes common occurrences that are not the result of defective workmanship or materials in this dryer.

OCCURRENCE	POSSIBLE CAUSE	SOLUTION
Dryer does not start.	Electrical power cord is not securely plugged in or plug may be loose. House fuse blown or circuit breaker tripped.	Make sure the plug fits tightly in wall outlet. Reset circuit breaker or replace fuse. Make sure electrical line is not overloaded and the dryer is on a separate circuit. Call authorized service person for replacement.
Dryer runs but won't heat.	There are 2 fuses based in the dryer circuit. If 1 of the 2 fuses is blown, the drum may turn but the heater will not operate. Gas supply valve is not open (gas models). Dryer does not have enough air supply to support the burner flame (gas models). LP gas supply tank is empty or there has been a utility interruption of natural gas (gas models).	Replace fuse. Check to make sure supply valve is open. See <b>INSTALLATION INSTRUCTIONS</b> for procedure. See <b>INSTALLATION INSTRUCTIONS</b> . Refill or replace tank. Dryer should heat when utility service is restored.
Drying cycle takes too long, outside of the dryer feels too hot or smells hot.	Lint screen is clogged with lint. Exhaust duct system/belt has not been met. When in place, the duct must have no more than two 90° bends and must not exceed length listed in <b>INSTALLATION INSTRUCTIONS</b> . Exhaust duct must be at least 4 inches in diameter and made of rigid or flexible metal. Exhaust duct must be 20% longer than drying in a 240 volt circuit. Dryer is overloaded. Drying procedures have not been followed. Chested exhaust hood or exhaust duct may be clogged or restricted. High humidity.	Make sure all lint has been removed from the dryer lint screen before starting each cycle. Exhaust duct must be at least 4 inches in diameter and made of rigid or flexible metal. When in place, the duct must have no more than two 90° bends and must not exceed length listed in <b>INSTALLATION INSTRUCTIONS</b> . Exhaust duct must be 20% longer than drying in a 240 volt circuit. See <b>Drying Procedures</b> , page 5. Clean out any obstruction. Use a dehumidifier under the dryer.
Excessive wrinkling.	Dryer is overloaded. Items left in dryer too long. Inadequate sorting of items. Drying temperature too high.	Do not overload. See <b>Drying Procedures</b> , page 3. Remove items as soon as cycle ends. See <b>Drying Procedures</b> , page 5. Follow fabric care label directions.
Scratching or chipping of the drum finish.	Foreign objects such as coins, pins, clips or buttons are inside the drum. Permanently attached items such as belt buckles, zippers and buttons may be hitting the inside of the drum.	Always remove foreign objects from pockets before laundering. Remove objects from drum and restart dryer. It may be necessary to leave a strip of material loosely around ornaments before drying to prevent scratching and damage to the dryer. Drum damage caused by foreign objects or permanently attached items is not covered by the warranty.

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## Registro de producto

Registre en la parte reservada a continuación la fecha de compra, el número de modelo y el número de serie de su electrodoméstico. El número de modelo y el número de serie están impresos como una placa de identificación ubicada en la parte trasera de la cubierta de la puerta.

Número de modelo: 417.  
Fecha de compra: \_\_\_\_\_  
No de serie: \_\_\_\_\_  
Guarda estas instrucciones y su boleto de compra para futuras referencias.

## Garantía para la secadora

## Garantía completa de un año para las piezas mecánicas y eléctricas

Por un año desde la fecha de compra original, si esta secadora se instala y opera de acuerdo con las Instrucciones del Manual de Uso y Mantenimiento, las Instrucciones para la Operación y las Instrucciones para la Instalación, Sears reparará o reemplazará cualquier pieza mecánica o eléctrica que no funcione correctamente debido a material o a mano de obra.

## Restricción de la garantía

Si se opera esta secadora para uso doméstico de una sola familia, toda la cobertura de la garantía es efectiva para solamente 90 días.

## Servicio bajo la garantía

Para obtener servicio bajo la garantía póngase en contacto con el más cercano Centro de Servicio Sears en los Estados Unidos.

Esta garantía se aplica únicamente mientras esta secadora esté siendo usada en los Estados Unidos.

Esta garantía le otorga derechos legales específicos, y usted también puede tener otros derechos que varían de un estado a otro.

Sears, Roebuck and Co., Dept. 817WA, Hoffman Estates, IL 60179

## CONTRATOS DE PROTECCIÓN PRINCIPALES

Los siguientes son los saldos de los contratos. Se han diseñado para proteger a los consumidores y para asegurar que los consumidores estén bien informados. Los saldos de los contratos de protección principal están en español y en inglés.

Además en Contratos de Protección Principal están y estarán en inglés y en español.

- ✓ El Contrato de Protección Principal describe la garantía y protege a los consumidores. El Contrato incluye la siguiente información:
  - ✓ Servicio completo de garantía: 12 meses de garantía en los Estados Unidos.
  - ✓ Servicio limitado de garantía y período de prueba de 90 días para probar los productos antes de la compra.
  - ✓ Opciones de reembolso: reembolso del producto bajo garantía si no funciona dentro de los 90 días de prueba.
  - ✓ Información de su producto: el producto bajo garantía no puede ser reemplazado.
  - ✓ Información de mantenimiento preventivo: cuando lo necesite, sin costo adicional.
  - ✓ Ayuda rápida por teléfono: ayuda e información no técnica para los productos incluidos en su hogar, además de lista de centros de servicio para las reparaciones.
  - ✓ Protección contra amenazas: ofertas de dinero a los consumidores de la compañía.
  - ✓ Información de los saldos de los contratos de protección principal: información sobre los saldos de los contratos de protección principal.

Una vez que usted ha comprado el Contrato, solamente recibirá una llamada por teléfono para que se le informe de los saldos de los contratos de protección principal. Usted no recibirá más llamadas de la compañía.

Se han diseñado los saldos de los contratos de protección principal para proteger a los consumidores y para asegurar que los consumidores estén bien informados. Los saldos de los contratos de protección principal están en español y en inglés.

Para obtener más información, llame al 1-800-667-0055.

ESPAÑOL



**ADVERTENCIA** Para su seguridad, siga la información contenida en este manual para minimizar el riesgo de incendio o explosión o para evitar daños materiales, lesiones personales o la muerte.

- No guarde ni utilice gasolina ni otros vapores y líquidos inflamables en las cercanías de este o cualquier otro electrodoméstico.
- QUE HACER SI NO HAY UN OLOR A GAS:**
  - No trate de encender ningún electrodoméstico.
  - No toque ningún interruptor eléctrico; no use ningún teléfono de su edificio.
  - Haga que todo el mundo salga del cuarto, no fume o fume.
  - Llame inmediatamente al proveedor del gas desde el teléfono de un vecino. Siga las instrucciones del proveedor del gas.
  - Si no puede ponerse en contacto con el proveedor del gas, llame a los bomberos.

La instalación y el servicio deben ser hechos por un instalador capacitado, una agencia de servicios o el proveedor del gas.

#### La seguridad y la seguridad de terceros son muy importantes.

Hemos proporcionado muchos mensajes importantes para la seguridad en las instrucciones de Operación y el Manual de Uso y Mantenimiento. Las instrucciones de instalación y en el mismo aparato, siempre los y en todas las partes de las instrucciones para seguridad.

**ADVERTENCIA** Este símbolo significa alerta. Este símbolo lo alerta acerca de peligros que pueden matar o lesionar, tanto a usted como a otras personas. Todos los mensajes de seguridad serán precedidos por la palabra "DANGER" o "WARNING" (PELIGRO O ADVERTENCIA). Estas palabras significan:

**PELIGRO DANGER (PELIGRO)** Indica un peligro de muerte o lesiones graves si no sigue las instrucciones.

**ADVERTENCIA WARNING** Indica un peligro de muerte o lesiones graves si no sigue las instrucciones.

Todos los mensajes de seguridad identificarán el peligro, le dirán a usted cómo reducir la posibilidad de lesiones y también le dirán cómo evitar o no seguir las instrucciones.

**Pedestal**  
Un accesorio de pedestal diseñado específicamente para este secador puede ser utilizado al elevar el secador para la facilidad de empleo. La falta de utilizar los accesorios certificados por el fabricante puede dar lugar a daños corporales, o incluso materiales, o a daños a la secadora. Instale en los L.E.U.

#### Instrucciones importantes para la seguridad

Lea todas las instrucciones antes de utilizar esta secadora.

**ADVERTENCIA** Para reducir el riesgo de incendio, descargas eléctricas o lesiones e las personas durante el uso de esta secadora, cumpla con las siguientes reglas que se enumeran a continuación.

**ADVERTENCIA** El incumplimiento de estas advertencias puede causar lesiones personales graves.

#### Evite el incendio

**ADVERTENCIA** No toque ninguna prenda que haya sido lavada, secada o manchada recientemente con líquidos inflamables, como gasolina, alcohol, acetona, etc. No guarde estos productos sobre ni cerca de la secadora. Estos productos pueden volar y causar incendios o explosiones.

**ADVERTENCIA** Para prevenir el incendio, no use calor para secar prendas que contengan plástico, para espumas o materiales tipo espuma, ni prendas que contengan piuma o plumón. Use la prestación de "Air Fluff" (sin calor) solamente.

**ADVERTENCIA** Limpie la rejilla para pelusas antes o después de cada carga de ropa. El interior de la secadora, el tambor que alberga la rejilla para pelusas y el conducto de salida deben ser limpiados aproximadamente cada 18 meses por un técnico de servicio autorizado. Una cantidad excesiva de pelusas en estas áreas puede causar un incendio y/o un posible incendio. Ver Cuidado y limpieza en la página 14.

**ADVERTENCIA** No ponga la secadora en funcionamiento si la rejilla para pelusas está bloqueada, dañada o no está colocada. Puede ocurrir un incendio, un sobrecalentamiento o daños a las prendas. Si no encuentra la rejilla para pelusas, llame siempre a un técnico de servicio autorizado para que la reemplace.

**ADVERTENCIA** Mantenga el área alrededor de la abertura de salida y las áreas adyacentes libres de acumulación de pelusas, polvo y suciedad.

**ADVERTENCIA** No obstruya el paso del aire de ventilación. No tape ni coloque ropa o elementos contra la parte delantera o trasera de la secadora.

**ADVERTENCIA** No retire ningún tipo de sensor dentro, sobre o cerca de la secadora o ningún momento.

**ADVERTENCIA** No use susavantes ni productos para eliminar la humedad de la ropa o de la ropa. No use susavantes ni productos para eliminar la humedad de la ropa o de la ropa.

**ADVERTENCIA** El incumplimiento de estas advertencias puede causar lesiones personales graves, un incendio, una explosión, lesiones corporales graves y/o daños a las prendas de vestir o a la secadora.

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Este Manual de Uso y Mantenimiento le ofrece instrucciones generales para la utilización de su secadora. También contiene información sobre las características de estos modelos. Puede ser que su secadora no tenga todas las características que se incluyen aquí.

Use la secadora solamente como se indica en el Manual de Uso y Mantenimiento y la tarjeta de instrucciones para el funcionamiento que se incluye con la secadora.

**ADVERTENCIA** Evite los riesgos de incendio o las descargas eléctricas. No use un adaptador o un cable de extensión ni saque la clavija de forma de fante del cable eléctrico. El no seguir esta advertencia puede causar lesiones graves, incendios o la muerte.

#### SECADORAS ELÉCTRICAS



**MANERA CORRECTA**  
Úsese AISOLANTE

#### SECADORAS A GAS



**MANERA CORRECTA**  
Úsese AISOLANTE

**Nota:** Lea las instrucciones que aparecen en este Manual de Uso y Mantenimiento no proporcionarán todas las condiciones y situaciones posibles que pueden ocurrir. Debe tenerse sentido con un técnico de instalación, instalar y mantener cualquier electrodoméstico.

#### Proteja a los niños

**ADVERTENCIA** No permita que los niños jueguen cerca de o dentro de la secadora. Debe vigilar de cerca a los niños cuando la secadora esté encendida o si se enciende de nuevo. Cuando estén cerca, asegúrese de que estén seguros de todas las partes eléctricas.

**ADVERTENCIA** Evite que los niños jueguen con la secadora. No permita que los niños jueguen con la secadora. No permita que los niños jueguen con la secadora. No permita que los niños jueguen con la secadora.

**ADVERTENCIA** Mantenga todos los productos de lavado fuera del alcance de los niños. No permita que los niños jueguen con los productos de lavado.

**ADVERTENCIA** Antes de retirar la secadora de servicio o desmontarla, asegure la puerta de la secadora para evitar que alguien pueda entrar.

**ADVERTENCIA** El incumplimiento de estas advertencias puede causar lesiones personales graves.

#### Evite lesiones

**ADVERTENCIA** Para evitar el riesgo de lesiones eléctricas y garantizar la estabilidad durante el funcionamiento, la secadora debe ser instalada y conectada a una línea de tierra por un técnico de servicio capacitado de conformidad con los códigos eléctricos locales. Se incluyen instrucciones para la instalación en la secadora para referencia del instalador. Vea las INSTRUCCIONES PARA LA INSTALACIÓN para los procedimientos detallados sobre la conexión a la línea de tierra. Si se mueve la secadora a otra ubicación, haga que un técnico de servicio capacitado examine y verifique la instalación de la secadora.

**ADVERTENCIA** Para evitar lesiones personales o daños a la secadora, el cable eléctrico de la secadora a gas debe estar correctamente instalado en un conducto de 3/4 de pulgada y con una tubería de tierra adecuada. No debe sacarse nunca la tubería de tierra. No conectarse nunca la tubería de tierra a una tubería de gas. No use un cable de extensión o un adaptador.

**ADVERTENCIA** Desconecte SIEMPRE la secadora del suministro de energía antes de hacer cualquier mantenimiento o limpieza. Si no lo hace, pueden ocurrir descargas eléctricas o lesiones.

**ADVERTENCIA** No use ningún líquido en vaporizador cuando limpie el interior de la secadora. Pueden producirse vapores peligrosos o productos de combustión.

**ADVERTENCIA** Para evitar lesiones, no meta la mano en la secadora mientras el tambor está en movimiento. Déje que el tambor se detenga completamente antes de meter la mano.

**ADVERTENCIA** Para evitar lesiones personales graves y daños a la secadora, asegure la puerta de la secadora y asegure el tambor de la secadora. No permita que los niños jueguen con la secadora. No permita que los niños jueguen con la secadora.

**ADVERTENCIA** Un interruptor de seguridad apaga el motor automáticamente en el caso poco probable de que ocurra un sobrecalentamiento (sobrecalentamiento excesivo). Un técnico de servicio debe cambiar el interruptor de seguridad después de haber corregido la falla.

**ADVERTENCIA** El incumplimiento de estas advertencias puede causar lesiones personales graves.

#### GUARDE ESTAS INSTRUCCIONES

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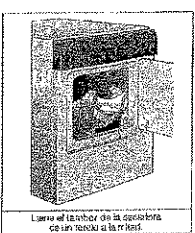
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#### Procedimientos para el secado



Siga los pasos que se indican a continuación para preparar la carga de ropa para el secado.

Lea la tarjeta de instrucciones para el funcionamiento para utilizar el modo específico.

Lave y siga siempre las etiquetas para el cuidado y lavado de sus prendas.

**ADVERTENCIA** Para reducir el riesgo de incendio, descargas eléctricas o lesiones personales, lea las instrucciones importantes para la seguridad en las páginas 10 y 11 antes de poner la secadora en marcha.

#### 1. Prepare la ropa para el secado.

- Revisar las prendas de telas, pesos y características similares en la misma carga.
- Seguir las etiquetas de las prendas. Seguir las etiquetas de las prendas de las que deben lavarse. Si una prenda está manchada, colóquela al revés.
- Revisar de que las etiquetas, los botones y los cierres estén correctamente colocados y no estén dañados. Si no lo están, asegure que estén correctamente colocados y no estén dañados.
- Extienda las prendas para ver si hay manchas que no fueron eliminadas con el lavado. El calor de la secadora puede hacer que las manchas se vuelvan más visibles. Realice el proceso de eliminación de manchas antes del secado.
- Coloque las prendas pequeñas en un área de mala vista para evitar que se vuelvan y para evitar que se dañen.

#### 2. Compruebe que la rejilla para pelusas esté limpia y colocada en su lugar.

- La carga promedio llenará el tambor a un tercio o la mitad. Las prendas necesitan espacio para moverse libremente para evitar un secado desigual y menos arrugas. No sobrecargue la secadora.
- Cuando eche prendas pequeñas, asegure solo 2 o 3 a la vez. Complete a carga con prendas pequeñas y medianas.
- Para cargas pequeñas o muy pequeñas, añada 2 libras sin pelusas para obtener un mejor secado, menos arrugas y para evitar las pelusas de grise causadas por las fibras de la ropa.
- No ponga la ropa excesivamente. El secado excesivo puede causar arrugas, encogimiento, agrietamiento y una acumulación de electricidad estática que puede producir más pelusas.
- Si se desea, añada una hoja de suavizante.

#### 3. Cierre la puerta de la secadora y coloque los controles de la secadora (algunos modelos).

Vea la tarjeta de instrucciones para el funcionamiento para los controles específicos de su modelo.

#### 4. Gire la perilla del programador hasta la posición deseada.

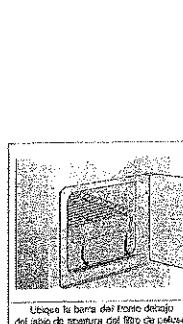
- Ponga la secadora en marcha.
- Gire la perilla de puesta en marcha en sentido de las agujas del reloj hacia la posición de encendido (ON). Manténgala durante 1 o 2 segundos y suelte.
- Para añadir o sacar prendas cuando la secadora está funcionando, abra la puerta. La secadora se detendrá durante un tiempo corto cuando la puerta esté abierta. Espere que el tambor se detenga por completo antes de meter la ropa dentro.
- Para volver a poner la secadora en marcha, cierre la puerta y gire la perilla de puesta en marcha hacia la posición de encendido (ON). Manténgala durante 1 o 2 segundos y suelte.

#### 5. Cuando se termina el ciclo, saque las prendas inmediatamente y cuélguelas o débelas.

Si se deja la carga dentro de la secadora, se puede dañar la ropa y la secadora.

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#### Características



#### Problemas comunes del secado

Muchos de los problemas del secado involucran resultados pobres de lavado, manchas y suciedad mal quitada, reducción de pelusa y secado y arrugas dañadas. Para resultados de secado satisfactorios, asegure estas recomendaciones preparadas por la Asociación de Lavado y Detergente.

PROBLEMA	CAUSAS POSIBLES	SOLUCIONES	MEDIDAS PREVENTIVAS
Manchas, suciedad o prelavado	• Agua demasiado caliente. • Agua demasiado fría.	• Evite las manchas de sudoración con agua de jabón. Evite el agua demasiado caliente. • Evite el agua demasiado fría.	• Asegure que el agua de lavado sea la correcta. • Evite el agua demasiado caliente. • Evite el agua demasiado fría.
Pelusa	• Demasiada carga. • Carga de ropa demasiado pesada. • El agua demasiado caliente. • El agua demasiado fría. • La perilla de lavado a "rápido".	• Reduzca la carga y asegure un buen lavado. • Evite el agua demasiado caliente. • Evite el agua demasiado fría. • Evite el agua demasiado caliente. • Evite el agua demasiado fría.	• No sobrecargue la secadora. • Evite el agua demasiado caliente. • Evite el agua demasiado fría.
Arrugas	• El secado excesivo. • El secado excesivo. • El secado excesivo.	• Evite el secado excesivo. • Evite el secado excesivo. • Evite el secado excesivo.	• No sobrecargue la secadora. • Evite el secado excesivo. • Evite el secado excesivo.
Arrugas	• Carga muy grande. • Carga muy grande. • Carga muy grande.	• Reduzca la carga y asegure un buen lavado. • Reduzca la carga y asegure un buen lavado. • Reduzca la carga y asegure un buen lavado.	• No sobrecargue la secadora. • Evite el secado excesivo. • Evite el secado excesivo.

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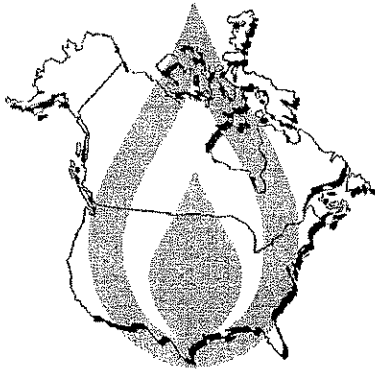
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ANSI Z21.5.1-2002  
CSA 7.1-2002AMERICAN NATIONAL STANDARD/CSA STANDARD  
FOR  
**GAS CLOTHES DRYERS**  
Volume I - Type 1 Clothes DryersAMERICAN NATIONAL STANDARD  
ANSI Z21.5.1-2002CSA STANDARD  
CSA 7.1-2002

Third Edition - 2002

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Volume I - Type 1 Clothes Dryers  
ANSI Z21.5.1-1989 - CSA 7.1-1989  
and Addenda  
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ANSI Z21.5.1B-2001 - CSA 7.1B-2001February 14, 2002  
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IGAC

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- b. The control incorporates only two terminals or leads, the interchange of which does not change the operation of the control.

## 1.18 MOTORS AND BLOWERS

- 1.18.1 See Exhibit A, Items Unique to the United States and Exhibit B, Items Unique to Canada for provisions covering motors.
- 1.18.2 Motor, blower or fan bearings shall be either (a) permanently lubricated or (b) provided with accessible means for lubrication. The removal of screws in access panels shall be considered unacceptable. Also see 1.22.7 b and 1.25.8.

## 1.19 LOADING DOORS

- 1.19.1 Loading doors shall be substantially reinforced so as to prevent warping.
- 1.19.2 Loading doors shall not show buckling, permanent deflection or damage to any part thereof when subjected to a load of 50 pounds (22.7 kg), uniformly applied for a period of 5 minutes without impact along the top edge of swing type doors when perpendicular to the plane of the face of the door, or along a strip 4 inches (102 mm) wide and the full width of drop doors which stop in the horizontal position, equidistant from the hinges and the outer edge of the door when open.
- 1.19.3 Swing-type doors on the drying chamber shall be equipped with a means to hold the door closed. Swing-type doors shall also comply with 2.17, Door and Catch Test.

## 1.20 MOISTURE AND LINT DISPOSAL

- 1.20.1 The dryer shall be provided with means for exhaust duct connection. Dryers shall be provided with a suitable collar that will accommodate standard duct material of integral inch size.
- 1.20.2 When a lint screen is provided upstream from the exhaust duct collar, the lint screen shall be readily removable or easily accessible for cleaning without disconnecting the exhaust duct.

## 1.21 INSULATION

- 1.21.1 When insulation is employed, it shall be uniformly packed and provided with protection to prevent shifting, deterioration from excessive heat, and contact with rotating parts.
- 1.21.2 Thermal insulation shall be considered as an electrically dead metal part and shall be reliably spaced from electrically live parts in accordance with the applicable spacing specified in Exhibits A, Items Unique to the United States and B, Items Unique to Canada.

## 1.22 INSTRUCTIONS

For dryers sold in Canada, also see Exhibit B, Items Unique to Canada.

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**WARNING: For your safety the information in this manual must be followed to minimize the risk of fire or explosion or to prevent property damage, personal injury or death.**

**— Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.**

**— WHAT TO DO IF YOU SMELL GAS**

- Do not try to light any appliances.
- Do not touch any electrical switch; do not use any phone in your building.
- Clear the room, building or area of all occupants.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

— Installation and service must be performed by a qualified installer, service agency or the gas supplier.

The letters used for the brand statement above shall be bold-faced type having a minimum uppercase letter height of 0.118 inch (3.05 mm). The minimum vertical spacing between lines of type shall be 0.040 inch (1.02 mm).<sup>3</sup> Lowercase letters shall be compatible with the uppercase letter size specification.

1.22.3 The front cover or the first page of the installation instructions for a Type I commercial dryer shall bear:

- a. A note instructing the purchaser to post in a prominent location instructions to be followed in the event of a gas leak. The information to be posted shall be obtained by consulting with the local gas supplier.
- b. The following "For Your Safety" caution, with a note instructing the purchaser to post this caution in a prominent location:

**FOR YOUR SAFETY**

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

<sup>3</sup> This letter height and line spacing correspond to 12 point type.

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1.22.6 The installation instructions shall include:

- a. Assembly instructions for field-installed parts and components, including all controls and accessories (when applicable).
  - b. Statements indicating:
    1. The installation must conform with local codes or, in absence of local codes, with the National Fuel Gas Code, ANSI Z223.1/NFPA 54 or the Canadian Natural Gas and Propane Installation Code, CSA B149.1.
    2. The dryer, when installed, must be electrically grounded in accordance with local codes, or in the absence of local codes, with the National Electrical Code, ANSI/NFPA 70, or the Canadian Electrical Code, CSA C22.1.
    3. The dryer must not be installed or stored in an area where it will be exposed to water and/or weather.
    4. Dryers installed in residential garages must be elevated 18 inches (46 cm) above the floor.

Note: If the manufacturer specifies that this dryer must not be installed in a residential garage, this clause is not required.

  - 5. The dryer must be secured in the structure, and methods for installing securing means provided with the appliance.
- Note: This applies only to dryers requiring securing means to comply with 1.2.6.
6. Clearances from combustible construction.
  7. Adequate clearances for servicing and proper operation.
  8. Provisions for adequate air supply and adequate clearances for air openings into the combustion chamber.
  9. Dimensions of required combustion and ventilation air openings in closet doors.
- Note: This applies only to dryers suitable for installation in a closet.
10. No other fuel-burning appliances shall be installed in the same closet as the dryer.
- Note: This applies only to dryers suitable for installation in a closet.
11. Combustible materials, gasoline, and other flammable vapors and liquids must not be stored near the dryer.
  12. The dryer must be disconnected from the gas supply piping system during pressure testing.
  13. Proper exhaust installation, indicating the type of exhaust duct, where applicable, and including the following statements:

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- (a) The dryer shall not be exhausted into any gas vent, chimney, wall, ceiling, or concealed space of a building; and
- (b) The dryer must be exhausted to the outdoors.
- (c) Exhaust duct must not be connected or secured with screws or other fastening devices which extend into the interior of the duct.

14. A 1/4 inch NPT minimum plugged tapping, accessible for test gas connection, must be installed immediately upstream of the gas supply connection to the dryer.
15. A vent line must be installed from the regulator vent to the outdoors (if applicable, see 1.14.2).
16. The following wording or the equivalent: "WHEN DISCARDING OR STORING YOUR OLD CLOTHES DRYER, REMOVE THE DOOR."

c. Dryers suitable for installation in a mobile home shall contain the following additional installation instructions:

1. That the installation of the dryer conform to the *Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280* [formerly the Federal Standard for *Mobile Home Construction and Safety, Title 24, HUD Part 2508*, or Standard *CAN/CSA 2200 MH*].
2. Means available from the manufacturer for secure attachment of the dryer to the structure (see 1.2.13).
3. Exhaust ducts must be securely fastened to a noncombustible portion of the mobile home structure and must terminate beneath the mobile home.
4. Mobile home exhaust kit part number, if available from the manufacturer, or instructions for the appropriate type, size, and installation of the duct.
5. Provisions for introduction of outside air into the dryer room. The free area of any opening for the introduction of outside air shall not be less than twice the area of the dryer exhaust outlet.

1.22.7 Operating instructions shall include information, clearly understandable, for the safe use and operation of the dryer. The operating instructions shall contain statements indicating the following wording or the equivalent:

"Do not allow children to play on or in the appliance. Close supervision of children is necessary when the appliance is used near children."

1.22.8 Maintenance instructions shall include instructions for all maintenance intended to be performed by the user, including recommended frequency guidelines. Maintenance instructions shall include, but are not limited to:

- a. Cleaning of lint screens (when supplied).

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- b. Lubrication of moving parts (when applicable), including type and amount of lubricant. (Also see 1.23.3.)
- c. Periodic examination of exhaust systems.
- d. Source for replacement parts.
- e. Keeping dryer area clear and free from combustible materials, gasoline and other flammable vapors and liquids.
- f. Keeping dryer area clear and free from items that would obstruct the flow of combustion and ventilation air.

1.22.9 Also see 1.2.3 b, 1.14.2, 1.23.3 through 1.23.6 and 1.23.8.

**1.23 MARKING**

1.23.1 Marking material shall be identified by class number and shall meet the following specifications. All metal marking materials shall be rustproof. All markings shall be suitable for application to surfaces upon which applied. The designation of any class of marking shall not preclude the use of marking of a lower number class.

**Class I. Integral Marking**

Marking that is embossed, cast, stamped or otherwise formed in the part. This includes markings, hatched into an etched surface.

**Class IIA-1. Permanent Plate**

Shall be made of metal having a minimum thickness of 0.012 inch (0.30 mm) and shall be securely attached by mechanical means.

**Class IIA-2. Permanent Plate**

Shall be made of metal having a thickness of 0.006 to 0.012 inch (0.15 to 0.30 mm) and shall have mechanical attachment means at all corners with a maximum spacing of 5 inches (127 mm) between mechanical fasteners.

**Class IIA-3. Permanent Plate**

Shall be made of metal having a thickness less than 0.006 inch (0.15 mm). Such plates shall be attached by means of nonwater-soluble adhesive which will comply with 2.19. Marking Material Adhesion and Legibility. These materials shall not be located on surfaces having temperatures exceeding 390°F (199°C) as determined during conduct of 2.14. Wall, Floor and Ceiling Temperature.

**Class IIA-4. Permanent Plate**

Shall be made of pressure-sensitive metal foil requiring no solvent or activation, provided such plates comply with 2.19. Marking Material Adhesion and Legibility. These materials shall not

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be located on surfaces having temperatures exceeding 300°F (149°C) as determined during conduct of 2.14, Wall, Floor and Ceiling Temperatures.

**Class IIIA-1. Permanent Label**

Shall be made of material not adversely affected by water, shall be attached by means of nonwater-soluble adhesive, and shall comply with 2.19, Marking Material Adhesion and Legibility. These materials shall not be located on surfaces having temperatures exceeding 300°F (149°C) as determined during conduct of 2.14, Wall, Floor and Ceiling Temperatures.

**Class IIIA-2. Permanent Label**

Shall be made of material not adversely affected by water, shall be attached by means of nonwater-soluble adhesive, and shall comply with 2.19, Marking Material Adhesion and Legibility. These materials shall not be located on surfaces having temperatures exceeding 175°F (79.5°C) as determined during conduct of 2.14, Wall, Floor and Ceiling Temperatures.

**Class IIIB. Waterproof Marking**

Shall be printed directly on the part with waterproof marking not adversely affected by a temperature of 175°F (79.5°C) and shall comply with 2.19, Marking Material Adhesion and Legibility. This marking shall not be used on surfaces having temperatures exceeding 175°F (79.5°C) as determined during conduct of 2.14, Wall, Floor and Ceiling Temperatures.

**Class IIC. Waterproof Label**

Shall be made of material not soluble in water, and may use water-soluble adhesive for attachment means.

**Class IV. Nonwaterproof Label**

Shall be made of material which may be soluble in water, and may use water-soluble adhesive for attachment means.

**Class V. Printed Marking**

Marking shall be clear and prominent and may be applied directly by any printing means.

**Class VI. Attached Tags**

- 1.23.2 **RATING PLATE(S).** Each dryer shall bear a plate or a combination of adjacent plates of Class IIA marking material located so as to be easily read when the dryer is in a normally installed position. A plate(s) visible after removal of an access panel, without the use of tools, is satisfactory. This plate(s) shall include the following information:

- The manufacturer's, dealer's or distributor's name and address.
- The manufacturer's model number.
- A distinctive number or numbers which will identify an individual dryer.

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- Type of gas for which tested: Nat., Mfd., Misc., Propane, LP or \_\_\_\_; Rio LP gas air mixture; and the type of gas for which equipped: Nat., Mfd., Misc., Propane, LP or \_\_\_\_; Rio LP gas air mixture (the heating value for the LP gas-air mixture shall be indicated).
- The manifold pressure recommended by the manufacturer.
- Maximum permissible gas supply pressure (\_\_\_\_" w.c.). The value located in the blank shall be the same as the increased inlet test pressure specified in Table V for the type of gas for which the appliance is certified.
- Minimum permissible gas supply pressure for purpose of input adjustment when the dryer is equipped with a gas appliance pressure regulator.
- The manufacturer's input rating as follows:  
"Input \_\_\_\_ Btu/h \_\_\_\_ kW"
- Electrical rating - voltage, frequency, and total input in amperes as follows:  
"\_\_\_\_ V \_\_\_\_ Hz \_\_\_\_ A"
- Identification of this standard by indicating either this edition of the standard, or the most recent effective addenda thereto, with one of the following markings:  
"ANS Z41.5.1 - CSA 7.1 (year) Clothes Dryers, Vol. 1,"  
"ANS Z41.5.1a - CSA 7.1 (year) Clothes Dryers, Vol. 1," or  
"ANS Z41.5.1b - CSA 7.1 (year) Clothes Dryers, Vol. 1."

The last two digits of the year may be used to indicate the year of the standard or addenda.

- The symbol of the organization making the tests for compliance with this standard.

- 1.23.3 **INSTRUCTION PLATE.** A dryer which requires more than the manual operation of a single control external to the dryer to place it in service shall have clearly defined, legible and complete instructions for lighting and shutting down the dryer on Class IIC marking material. These instructions shall be located on or adjacent to the controlling device or in an equally conspicuous position where the instructions can be easily read and readily observed by the operator. Lighting instructions shall specify a 5 minute complete shutoff period before the dryer is relighted.

1.23.4 **CLEARANCE MARKINGS.**

- Each dryer shall bear a marking on Class IIC marking material, located as specified in 1.23.2 or where visible during installation, stating the minimum clearances from combustible construction for the top, all sides and the exhaust duct surfaces. A dryer complying with the optional provisions of 2.14.2 shall also be marked to indicate closet installation requirements. The clearance between the exhaust duct where it penetrates the enclosure and combustible construction, if other than zero, shall also be indicated.
- A dryer which requires clearance from any type of construction for serviceability or proper operation shall bear a marking on Class IIC marking material, located on the

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surface(s) requiring such clearance or where visible during installation, indicating the minimum distance required.

- 1.23.5 A dryer for closet installation shall bear a statement on Class IIA marking material, referring to the installation instructions for closet installation. This statement shall (1) be located as specified in 1.23.2, or (2) be visible during installation.

- 1.23.6 A clothes dryer equipped with securing means utilized to comply with 1.2.8 shall bear a Class IV marking permanently located on the front or top of the dryer coding to the effect that the installation is not complete until the dryer is secured to the structure with the securing means provided and that the installation instructions should be referred to for proper installation.

- 1.23.7 A dryer for domestic use which is also suitable for manufactured home installation (see 1.2.12) shall incorporate on the rating plate, or on a separate marking plate of Class IIA marking material adjacent to the rating plate, a permanent and prominent statement reading to the effect that the dryer is also suitable for manufactured home installation. If the part numbers of the installation and exhaust kits are not included on this plate, a marking shall be incorporated to indicate the location of this information.

Any of the following may be substituted for manufactured home in the above marking:

- MH, home (mobile home);
- Manufactured (mobile) home;
- MH, (mobile) home;
- Manufactured home; or
- MH, home.

- 1.23.8 Suitable instructions for lubrication of motor and blower or fan bearings, if applicable, shall be provided on a Class V marking either on the fan or blower housing or on surfaces adjacent to the means of access.

- 1.23.9 **ELECTRICAL DIAGRAMS.** Each dryer shall bear a marking on Class IV marking material stating, "Caution: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing."

- 1.23.10 The dryer shall bear a marking, on Class IIA marking material, located so as to be readily visible to the user when loading the dryer, on which appears wording to warn the user that:

- The dryer must be used only for water washed fabrics and
- Heat should not be used for drying foam rubber items or similarly textured rubbastic material.

- 1.23.11 All dryers shall bear a Class IIA-2 label stating "This Dryer must be Exhausted to the Outdoors" or equivalent wording. The marking shall be in letters not less than 1/8 inch

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(3/32 inch) high which will be readily visible on the enclosure front, or from the front when the dryer door is opened.

- 1.23.12 Also see 1.2.8 a, and 1.9.2.

- 1.23.13 A clothes dryer certified for domestic use in Canada with natural gas and propane and convertible (ie the alternate gas, shall bear a Class III marking on or adjacent to the rating plate to the effect as follows: "For use with natural gas and propane, a conversion kit, as supplied by the manufacturer, shall be used to convert this dryer to the alternate fuel. Four verification over the gas natural et le propane, le convertisseur fournaux par le fabricant doit être utilisé pour passer d'un combustible à l'autre."

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## Abstract

In 2000-2006, there were 15,350 non-confined home structure fires per year reported to U.S. fire departments where clothes dryers or washing machines were the equipment involved in ignition, with associated annual losses of 16 civilian deaths, 433 civilian injuries, and \$201 million in direct property damage. Dryers alone accounted for 92% of these fires and all of the reported deaths.

These estimates are based on data from the U.S. Fire Administration's (USFA's) National Fire Incident Reporting System (NFIRS) and the National Fire Protection Association's (NFPA's) annual fire department experience survey.

Keywords: Fire statistics, home fires, clothes washer, clothes dryer.

## Acknowledgements

The National Fire Protection Association thanks all the fire departments and state fire authorities who participate in the National Fire Incident Reporting System (NFIRS) and the annual NFPA fire experience survey. These firefighters are the original sources of the detailed data that make this analysis possible. Their contributions allow us to estimate the size of the fire problem.

We are also grateful to the U.S. Fire Administration for its work in developing, coordinating, and maintaining NFIRS.

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## Clothes Dryers and Washing Machines Fact Sheet

In 2006, an estimated 17,700 reported U.S. non-confined or confined home\* structure fires involving clothes dryers or washing machines (including combination washer/dryers) resulted in an estimated:

- 15 civilian deaths
- 360 civilian injuries
- \$194 million in direct property damage

**Leading Items First Ignited in Non-Confined Fires Involving  
Clothes Washer or Clothes Dryer, 2003-2006**

Dryer	Fires	Washer	Fires
Clothing	30%	Wire or cable insulation	29%
Dust, fiber, or lint	27%	Appliance housing or casing	21%
Unclassified soft goods or clothing	10%	Drive or other belt	18%

- Most (81%) non-confined home structure fires involving washers or dryers began in a laundry room or area.
- Most of these home fires involve clothes dryers (92% in 2003-2006).
- The risk of fire is slightly higher for gas-fueled clothes dryers than for electric-powered clothes dryers.
- The leading cause (25% of fires) of home clothes dryer and washer fires was failure to clean.

\*Homes are duplexes, triplexes, manufactured homes, apartment units, townhouses, row houses, and condominiums.

Estimates are derived from the U.S. Fire Administration National Fire Incident Reporting System (NFIRS) Version 5.0 and NFPA's annual fire department experience survey.

Home Fires Involving Clothes Dryers  
And Washing Machines. 3709

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Home Fires Involving Clothes Dryers and Washing Machines, 1999

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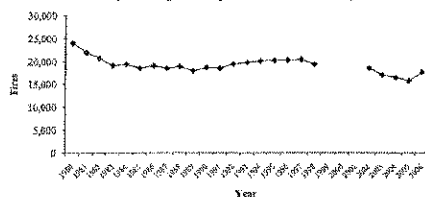
### Clothes Dryers and Washing Machines

In 2006, an estimated 17,700 reported U.S. non-confined or confined<sup>1</sup> home structure fires involving clothes dryers or washing machines (including combination washer/dryers) resulted in 15 civilian deaths, 360 civilian injuries, and \$194 million in direct property damage.

Washer and dryer fires were mostly level from 1980 to 1998, with only a slight decline in the first years of the period to break the pattern. After some volatility during the transition years as NFIRS Version 5.0 was introduced, the estimates have settled into a new level trend lower than the lowest levels of 1980-1998. Civilian injuries have stabilized in a range comparable to that seen in the 1990s. Direct property damage after adjustment for inflation is varying year to year but around a generally higher average than those seen prior to 1999.

In 2006, clothes dryers and washing machines accounted for 4.3% of all reported home structure fires, 0.6% of associated civilian deaths, 2.9% of associated civilian injuries, and 2.8% of associated direct property damage.

Figure 1. Home Fires Involving Washers or Dryers, by Year  
Structure Fires Reported to U.S. Fire Departments  
(Excluding Fires Reported as Confined Fires)



Notes: See Notes on your label.

Source: Data from NIDDS and NSDA survey.

Most (92%) home fires involving washers or dryers involve clothes dryers.

<sup>1</sup> Confined fires are fires reported as confined to fuel burner or heater, chimney or fan, cooking vessel, trash, refrigerator, or commercial equipment. For fires reported as confined fires, high-rise buildings are not included in the National Fire Incident Reporting System (NFIRS). See Appendix for more details.

*Forest Fires Involving Charles Dwyer and Washing Machine, 1902*

1 NITA Fires Analysis &amp; Research, Quincy, MA.

in 2003-2006, washers and dryers were involved in an estimated 1,450 home structure fires per year that were reported as confined fires. They add about 10% to the average of non-confined fires. The largest share of these confined fires was for contained trash fires:

- Confined trash fire (42% of total reported confined home structure fires involving washer or dryer),
- Confined to fuel burner or boiler (23%),
- Confined to cooking vessel (13%),
- Confined to chimney or flue (13%),
- Confined to incinerator (9%), and
- Confined to commercial compactor (8%).

The confined fire fires are the ones that make the most sense for this kind of equipment. The confined trash or rubbish fires make sense if "trash" is understood to include lint. Most of these fires involved either lint or items (e.g., clothing, other soft goods) that can generate lint in a dryer. The others could include examples of using equipment not designed for clothes drying (cooking vessel, incinerator) as a makeshift clothes dryer. More likely, those categories may have been used because there is no code for the dryer, but there are two codes for equipment used to heat the contents of a compartment or enclosure in the equipment. That description fits a clothes dryer, even though the purpose is not cooking or incineration of the contents.

Table A. Home Fires Involving Washers or Dryers, by Type of Equipment  
Annual Average of 2003-2006 Structure Fires Reported to U.S. Fire Departments  
(Including Fires Reported as Confined Fires)

Equipment	Fires	Civilian Deaths	Civilian Injuries	Direct Property Damage (in Millions)
Clothes dryer	15,495 (92%)	16 (100%)	453 (92%)	\$150 (94%)
Washing machine	760 (4%)	0 (0%)	77 (15%)	58 (3%)
Wet/dry vacuum	730 (3%)	0 (0%)	46 (9%)	26 (1%)
Total washer or dryer	16,815 (100%)	16 (100%)	416 (100%)	\$234 (100%)

*Note:* Treatate national activities of firms reported in U.S. records of fire departments and to include firm reported only in Federal or state agencies in indicated fire jurisdiction. National activities are projections. Casualty and loss projections could be heavily influenced by the inclusion or exclusion of fire insurance claims. Firms are recorded in the criminal acts, even those and injuries to the human eye, and other property damage to the human million dollars. Changes may have been adjusted for inflation. Figure reflects a proportional share of those firms reported to "no equipment" but seeking a continuing specific loss source for the ability to pay a market of insurance companies and groups. Firms are not reported in the case of reporting.

Source: Data from BPS55, Version 5.0 and BPSA survey.

The risk of fire is slightly higher for gas-fueled clothes dryers than for electric-powered clothes dryers.

In 2003-2006, home fires involving electric-powered dryers outnumbered home fires involving gas-fueled dryers by 3.2-to-1. Usage statistics are available for 2001 and 2007, when the ratios of households using electric-powered dryers to households using gas-

Home Fires involving Clothes Dryers  
and Washers Available 3/20/01

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fuelled dryers were 3.6-to-1 and 3.4-to-1, respectively.<sup>2</sup> The ratio of usage being higher than the ratio of fires implies a slightly higher risk for gas-fueled dryers.

The estimated difference in risk might be larger if the analysis could adjust for differences in other risk-related characteristics of users of the two types of dryers. For example, the relative usage of electric-powered dryers is considerably greater for some high-risk groups – rural communities (10.6-to-1) and the South region (13.3-to-1) – and lower for some low-risk groups, such as the West region (2.0-to-1). In other words, the owners of electric-powered dryers are disproportionately located in regions and in sizes of communities where the overall risk of fire is above average. If the estimated fire risks associated with electric-powered and gas-fueled dryers were adjusted to reflect these non-dryer-related differences in fire risks of the dryer owners, then the slight estimated risk advantage for electric-powered dryers would be re-estimated as a somewhat larger risk advantage.

In 1995-2003, there were an average of 1.4 electrocution deaths per year involving clothes dryers.<sup>3</sup>

This captures all reports issued by the U.S. Consumer Product Safety Commission, which did not report on product-related electrocution deaths for 1999. In addition, clothes washers accounted for two electrocution deaths in 2009. In 2002, clothes washers were part of a larger group, with no separate results by type of equipment, that together accounted for ten electrocution deaths.

In 2006, an estimated 21,330 injuries involving clothes dryers and clothes washers were reported to hospital emergency rooms.<sup>4</sup>

Unlike civilian fire injuries, these injuries were more likely to involve clothes washers than clothes dryers. The leading types of injuries were strains and sprains, lacerations, and contusions and abrasions. These types of injuries might be expected to occur when trying to move the appliance, when the victim falls on the appliance, or when the appliance falls on the victim.

Table B. Injuries Involving Washers or Dryers Reported to Hospital Emergency Rooms, 2006

Type of Equipment	Total	Type of Injury		
		Strain or Sprain	Laceration	Contusion or Abrasion
Clothes dryer	15,578	4,250	2,620	2,708
Clothes washer	7,560	1,230	1,490	1,119
Total	21,330	7,150	4,110	3,820

Source: CPSC's National Electronic Injury Surveillance System

<sup>2</sup> Statistical Abstract of the United States 2007, U.S. Census Bureau, 2007, Table 902, *Expenditure on Housing Survey 2006*, U.S. Department of Commerce and U.S. Department of Housing and Urban Development, Table 2-5.

<sup>3</sup> Robert T. Cleveland, 2004 *Electrocution Associated with Consumer Products*, Underhill 2004, Table 2, [www.cpsc.gov](http://www.cpsc.gov), and review is posted in the report.

<sup>4</sup> Statistics from the National Electronic Injury Surveillance System (NEISS), owned by the U.S. Consumer Product Safety Commission website, [www.cpsc.gov](http://www.cpsc.gov).

Home Fires Involving Clothes Dryers And Washing Machines, 3/09

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Failure to clean is the leading factor contributing to ignition cited for 2003-2006 non-confined home structure fires involving washers or dryers (29%) and clothes dryers specifically (31%).

Many other leading factors involve mechanical or electrical failures or malfunctions with little detail provided. Fire deaths often cite human-error factors, including failure to clean (9 civilian fire deaths per year) and unclassified operational deficiency (4 deaths per year).

The item first ignited for 2003-2006 home non-confined clothes dryer structure fires is likely to be something being dried or a byproduct of such an item (such as lint), while for home non-confined clothes washer structure fires, the first item ignited is likely to be a part of the appliance itself.

The leading items for clothes dryers include clothing (30% of fires and 26% of civilian deaths); dust, fiber, or lint (27% of fires and 31% of deaths), and unstuffed soft goods or clothing (10% of fires). The leading items for clothes washers include wire or cable insulation (20% of fires), appliance housing or casing (21% of fires), and drive belt (18% of fires).

Most (81%) 2003-2006 non-confined home structure fires involving washers or dryers began in a laundry room or area.

Other leading areas of origin included garage (3% of fires), crawl space or substructure space (2%), and kitchen (3%).

There is no direct statistical evidence of a home fire problem involving dryers and spontaneous heating of soft goods impregnated by flammable or combustible liquids.

The fires of concern occur when flammable or combustible liquids are absorbed by soft goods like towels, are not completely removed during washing, and then become part of a delayed ignition of goods heated by a clothes dryer. If the pile is large enough, and if the goods have certain physical properties, then it is possible that heat will build up inside the pile faster than heat is lost to the surrounding air. The risk is associated with large piles of goods, more characteristic of a large commercial or institutional laundry than of a home, and the risk is also increased if the dryer cycle is interrupted before completion of the cool-down portion of the cycle. Only 1% of home dryer fires began with the ignition of flammable or combustible liquids and a side analysis showed only 0.2% of home dryer fires involved a chemical reaction or spontaneous heating as the heat source.

#### Safety Tips:

- Clean the lint filter in a dryer before or after each use because accumulated dust and lint can be a fire hazard.

If clothing is still damp at the end of a typical drying cycle or drying requires longer times than normal, this may be a sign that the lint screen or the exhaust duct is blocked.<sup>5</sup>

<sup>5</sup> *Overheated clothes dryer can cause fires*, CPSC Document #322, U.S. Consumer Product Safety Commission, Washington, DC, updated June 2003.

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- Also, remove accumulated lint around the drum. Do not operate the dryer without a lint filter.

- Periodically check while the dryer is operating to make sure that the air exhaust vent pipe is not restricted and the outdoor vent flap will open. Clean lint out of the vent pipe once a year.

To remove a blockage in the exhaust path, it may be necessary to disconnect the exhaust duct from the dryer. Remember to reconnect the ducting to the dryer and outside vent before using the dryer again.<sup>6</sup>

- There are long, thin brushes one can buy to make it easier to reach and remove lint in the vent pipe and around the drum. These are also dryer lint removal services.

Have a qualified service person clean the interior of the dryer chassis periodically to minimize the amount of lint accumulation.<sup>7</sup>

- Replace plastic or foil, accordion-type ducting material with rigid or corrugated semi-rigid metal duct. Most manufacturers specify the use of a rigid or corrugated semi-rigid metal duct, which provides maximum airflow. The flexible plastic or foil type duct can more easily trap lint and is more susceptible to kinks or crushing, which can greatly reduce the airflow.<sup>8</sup>

- Be sure that a dryer is plugged into an outlet suitable for its electrical needs.

- Do not leave a dryer running if you leave the home, because if it malfunctions, no one will be there to avert possible disaster.

- Keep the dryer area clear of combustibles like boxes and clothing.

- Have your dryer installed and serviced by a professional.

- Take special care when drying clothes that have been soiled with volatile chemicals such as gasoline, cooking oils, cleaning agents, or finishing oils and stains. If possible, wash the clothing more than once to minimize the amount of volatile chemicals on the clothes and, preferably, hang the clothes to dry. If using a dryer, use the lowest heat setting and a drying cycle that has a cool-down period at the end of the cycle. To prevent clothes from igniting after

<sup>6</sup> *Overheated clothes dryer can cause fires*, CPSC Document #322, U.S. Consumer Product Safety Commission, Washington, DC, updated June 2003.

<sup>7</sup> For more information on factors in this document, regarding, and opinion of, see *Article Two: Clothes Dryer Fires and Lint Ignition Characteristics*, U.S. Consumer Product Safety Commission, Washington, DC, May 2003.

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drying, do not leave the dried clothes in the dryer or piled in a laundry basket.<sup>9</sup>

- It is important to keep dryers in good working order to avoid problems associated with lack of maintenance and part failures. Gas dryers should be inspected by a professional occasionally to ensure that the gas line and venting are intact and free of leaks.

- To help reduce electrical problems associated with washing machines and dryers, make sure the right plug and outlet are used and the machine is connected properly.

- Avoid overloading a washing machine or dryer and follow manufacturer's equipment care and operating instructions. This should help cut down on the number of fires caused by parts breaking and leaks.

- Have a professional check the equipment if there are any doubts that it is running properly or safely.

- Washing machines and dryers should be properly grounded.

<sup>8</sup> *Overheated clothes dryer can cause fires*, CPSC Document #322, U.S. Consumer Product Safety Commission, Washington, DC, updated June 2003.

<sup>9</sup> For more information on factors in this document, regarding, and opinion of, see *Article Two: Clothes Dryer Fires and Lint Ignition Characteristics*, U.S. Consumer Product Safety Commission, Washington, DC, May 2003.

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Table 1. Home Fires Involving Washers or Dryers, by Year  
Structure Fires Reported to U.S. Fire Departments

Year	Fires	Civilian Deaths	Civilian Injuries	Direct Property Damage (in Millions) As Reported
1982	24,109	7	380	\$38
1981	22,650	19	250	\$33
1980	20,830	49	330	\$41
1979	15,200	5	200	\$49
1978	19,450	7	270	\$60
1975	18,400	5	240	\$57
1974	19,100	17	240	\$60
1973	16,000	25	340	\$50
1972	18,000	22	240	\$71
1969	18,000	8	240	\$64
1968	18,700	24	200	\$83
1961	18,600	10	330	\$96
1962	15,500	9	400	\$78
1961	19,000	8	400	\$87
1954	20,300	6	400	\$91
1935	20,300	27	360	\$104
1936	20,400	31	370	\$116
1937	20,500	36	450	\$128
1938	19,500	23	400	\$100
1999	19,500 (16,800)	0 (0)	150 (100)	\$112 (\$112)
2000	15,900 (15,000)	0 (0)	440 (440)	\$175 (\$175)
2001	16,700 (16,900)	31 (31)	320 (330)	\$130 (\$131)
2002	16,600 (17,100)	50 (50)	430 (450)	\$122 (\$122)
2003	17,100 (15,400)	18 (18)	490 (470)	\$256 (\$256)
2004	16,500 (15,100)	22 (22)	460 (460)	\$171 (\$171)
2005	15,800 (14,400)	14 (14)	440 (440)	\$206 (\$206)
2006	17,700 (16,400)	15 (15)	360 (360)	\$194 (\$194)

Note: Figures in parentheses exclude unclassified fires, which are fires reported as undetermined in fuel source or ignition, chimney or flue, cooking vessel, trash, incinerator, or recreational equipment. These are fires reported to U.S. fire departments and are excluded from reported only to Federal or state agencies or individual fire brigades. National estimates are projections. Fires are included in the figures based on the number of fires reported in the survey, not on the number of fires reported in the survey. Fires, deaths, and injuries are reported only on this table. In any other in the report, however, wherever, most of the fires shown would have four significant figures, and that would suggest an unwarranted high degree of precision. Figures reflect a proportional share of fires with equipment involved in ignition, whereas, fires reported as "no equipment" but having a confirmed specific heat source (codes 40-99) are also treated as unknown equipment and included. Because of low participation in NFIRS Version 3.0 during 1999-2001, estimates for these years are highly variable and must be used with caution. Inflation adjustment to 2006 dollars is shown using the consumer price index.

Source: Data from NFIRS Version 4.1 (1980-1998) and Version 3.0 (1999-2006) and from NFPA survey.

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Table 2. Home Fires Involving Washers or Dryers, by Factor Contributing to Ignition  
Annual Average of 2003-2006 Structure Fires Reported to U.S. Fire Departments  
(Excluding Fires Reported as Confined Fires)

## A. Clothes Dryers and Washing Machines

Factor	Fires	Civilian Deaths	Civilian Injuries	Direct Property Damage (in Millions)
Failure to clean	4,620 (25%)	9 (35%)	91 (21%)	\$97 (23%)
Unclassified mechanical failure or malfunction	3,640 (24%)	4 (20%)	116 (27%)	\$49 (24%)
Unclassified electrical failure or malfunction	1,130 (6%)	0 (0%)	15 (4%)	\$30 (10%)
Unspecified short circuit arc	780 (5%)	0 (0%)	35 (8%)	\$10 (5%)
Heat source too close to combustibles	770 (5%)	0 (0%)	24 (6%)	\$15 (7%)
Worn out	710 (5%)	0 (0%)	14 (3%)	\$5 (1%)
Unclassified operational deficiency	560 (4%)	4 (24%)	29 (7%)	\$12 (5%)
Automatic control failure	530 (3%)	0 (0%)	8 (2%)	\$9 (4%)
Equipment unattended	520 (3%)	0 (0%)	16 (4%)	\$13 (6%)
Unclassified factor contributing to ignition	310 (2%)	5 (15%)	17 (4%)	\$6 (3%)
Installation deficiency	480 (3%)	0 (0%)	13 (3%)	\$10 (5%)
Equipment overloaded	430 (3%)	0 (0%)	3 (1%)	\$1 (2%)
Unclassified misuse of material	360 (2%)	0 (0%)	14 (3%)	\$2 (1%)
Equipment not being operated properly	320 (2%)	0 (0%)	15 (4%)	\$5 (3%)
Short circuit arc from defective or worn insulation	230 (2%)	0 (0%)	15 (3%)	\$3 (1%)
Arc or spark from opening equipment	220 (1%)	0 (0%)	10 (2%)	\$4 (2%)
Leak or break	180 (1%)	0 (0%)	5 (1%)	\$1 (1%)
Direct circuit arc from mechanical damage	140 (1%)	0 (0%)	3 (1%)	\$3 (2%)
Abandoned or discarded material	130 (1%)	0 (0%)	3 (1%)	\$6 (4%)
Arc from faulty contact or broken conductor	90 (1%)	0 (0%)	6 (3%)	\$2 (1%)
Design deficiency	90 (1%)	0 (0%)	0 (0%)	\$1 (0%)
Other known factor contributing to ignition	360 (2%)	0 (0%)	35 (8%)	\$8 (6%)
Total fires	15,350 (100%)	16 (100%)	433 (100%)	\$201 (100%)
Total factor entries	16,580 (108%)	30 (125%)	496 (114%)	\$233 (116%)

Home Fires Involving Clothes Dryers  
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Table 1. Home Fires Involving Washers or Dryers, by Factor Contributing to Ignition (Continued)  
Annual Average of 2003-2006 Structure Fires Reported to U.S. Fire Departments  
(Excluding Fires Reported as Confined Fires)

## B. Clothes Dryers

Factor	Fires	Civilian Deaths	Civilian Injuries	Direct Property Damage (in Millions)
Failure to clean	4,320 (31%)	9 (35%)	91 (21%)	\$95 (24%)
Unclassified mechanical failure or malfunction	3,240 (23%)	4 (20%)	110 (26%)	\$46 (24%)
Unclassified electrical failure or malfunction	990 (7%)	0 (0%)	9 (2%)	\$19 (10%)
Heat source too close to combustibles	720 (5%)	0 (0%)	25 (6%)	\$13 (7%)
Unspecified short circuit arc	630 (4%)	0 (0%)	30 (7%)	\$10 (5%)
Worn out	590 (4%)	0 (0%)	7 (2%)	\$3 (2%)
Unclassified operational deficiency	530 (4%)	4 (24%)	25 (7%)	\$12 (6%)
Automatic control failure	490 (3%)	0 (0%)	8 (2%)	\$3 (2%)
Equipment unattended	480 (3%)	0 (0%)	16 (4%)	\$9 (3%)
Installation deficiency	470 (3%)	0 (0%)	10 (3%)	\$10 (5%)
Unclassified factor contributing to ignition	460 (3%)	3 (15%)	17 (4%)	\$6 (3%)
Equipment overloaded	370 (3%)	0 (0%)	4 (1%)	\$2 (2%)
Unclassified misuse of material	370 (2%)	0 (0%)	14 (3%)	\$2 (1%)
Equipment not being operated properly	360 (2%)	0 (0%)	16 (4%)	\$5 (3%)
Short circuit arc from defective or worn insulation	210 (2%)	0 (0%)	12 (3%)	\$3 (1%)
Arc or spark from opening equipment	190 (1%)	0 (0%)	6 (2%)	\$3 (2%)
Leak or break	160 (1%)	0 (0%)	6 (1%)	\$1 (1%)
Short circuit arc from mechanical damage	120 (1%)	0 (0%)	4 (1%)	\$3 (2%)
Abandoned or discarded material or product	110 (1%)	0 (0%)	3 (1%)	\$7 (4%)
Design deficiency	80 (1%)	0 (0%)	0 (0%)	\$1 (0%)
Arc from faulty contact or broken conductor	30 (1%)	0 (0%)	0 (0%)	\$1 (1%)
Other known factor contributing to ignition	320 (2%)	0 (0%)	36 (8%)	\$8 (4%)
Total fires	14,320 (100%)	16 (100%)	400 (100%)	\$190 (100%)
Total factor entries	15,280 (106%)	20 (125%)	452 (113%)	\$218 (115%)

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Table 2. Home Fires Involving Washers or Dryers, by Factor Contributing to Ignition (Continued)  
Annual Average of 2003-2006 Structure Fires Reported to U.S. Fire Departments  
(Excluding Fires Reported as Confined Fires)

## C. Washing Machines

Factor	Fires	Civilian Deaths	Civilian Injuries	Direct Property Damage (in Millions)
Unclassified mechanical failure or malfunction	200 (29%)	0 (NA)	2 (14%)	\$2 (3%)
Unspecified short-circuit arc	140 (21%)	0 (NA)	4 (21%)	\$1 (15%)
Unclassified electrical failure or malfunction	100 (15%)	0 (NA)	2 (11%)	\$1 (13%)
Worn out	100 (14%)	0 (NA)	3 (33%)	\$0 (0%)
Other known factor contributing to ignition	180 (26%)	0 (NA)	7 (39%)	\$2 (28%)
Total fires	690 (100%)	0 (NA)	27 (100%)	\$6 (100%)
Total factor entries	710 (103%)	0 (NA)	17 (100%)	\$7 (120%)

NA - Not applicable because total is zero.

## D. Combination Washer/Dryers

Factor	Fires	Civilian Deaths	Civilian Injuries	Direct Property Damage (in Millions)
Unclassified mechanical failure or malfunction	140 (26%)	0 (NA)	4 (23%)	\$1 (23%)
Failure to clean	120 (22%)	0 (NA)	4 (24%)	\$1 (11%)
Unclassified electrical failure or malfunction	60 (11%)	0 (NA)	4 (21%)	\$0 (7%)
Other known factor contributing to ignition	260 (47%)	0 (NA)	4 (24%)	\$5 (85%)
Total fires	540 (100%)	0 (NA)	16 (100%)	\$6 (100%)
Total factor entries	580 (106%)	0 (NA)	16 (100%)	\$7 (128%)

NA - Not applicable because total is zero.

Note: Multiple entries are allowed, resulting in more factor entries than fires. Figures exclude confined fires, which are fires reported as confined to fuel source or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial equipment. These are national estimates of fires reported to U.S. municipal fire departments and to civilian fire departments only to Federal or state agencies or individual fire brigades. National estimates are projections. Clearly and less programs can be heavily influenced by the location or exclusion of one seasonally certain fire. Fires are awarded to the nearest fire, civilian deaths and injuries to the nearest one, and direct property damage to the nearest million dollars. Figures have not been adjusted for inflation. Figures reflect a proportional share of fires with equipment involved in ignition, whereas, fires reported as "no equipment" but having a confirmed specific heat source (codes 40-99) are also treated as unknown equipment and included. Fires with this equipment and factor contributing to ignition unknown, unreported, none, or blank have also been allowed proportionately. Totals are not equal sums because of rounding error.

Source: Data from NFIRS Version 3.0 and NFPA survey.

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Table 3. Home Fires Involving Washers or Dryers, by Item First Ignited  
Annual Average of 2003-2006 Structure Fires Reported to U.S. Fire Departments  
(Excluding Fires Reported as Confined Fires)

## A. Clothes Dryers and Washing Machines

Item First Ignited	Fires	Civilian Deaths	Civilian Injuries	Direct Property Damage (in Millions)
Clothing	4,379 (26%)	4 (20%)	165 (28%)	\$69 (70%)
Duct, filter, or lint	4,220 (26%)	5 (21%)	73 (12%)	\$36 (16%)
Unclassified soft goods or clothing	1,490 (10%)	0 (0%)	50 (12%)	\$21 (10%)
Appliance housing or casing	1,160 (8%)	4 (24%)	12 (3%)	\$34 (12%)
Wire or cable insulation	1,100 (7%)	0 (0%)	38 (9%)	\$12 (6%)
Linens other than bedding	680 (4%)	0 (0%)	15 (3%)	\$4 (2%)
Unclassified from first ignited	300 (3%)	0 (0%)	5 (1%)	\$3 (1%)
Mattress or bedding	310 (2%)	0 (0%)	5 (1%)	\$7 (3%)
Interior wall covering	260 (2%)	3 (19%)	3 (1%)	\$11 (5%)
Drive belt	220 (1%)	0 (0%)	6 (1%)	\$0 (0%)
Flammable or combustible gas or liquid	130 (1%)	0 (0%)	32 (7%)	\$2 (1%)
Pipe, duct, conduit or hose	120 (1%)	0 (0%)	0 (0%)	\$1 (0%)
Multiple items first ignited	130 (1%)	0 (0%)	7 (2%)	\$3 (1%)
Structural member or framing	90 (1%)	0 (0%)	0 (0%)	\$4 (2%)
Goods not made up, including fabrics and yard goods	80 (1%)	0 (0%)	2 (1%)	\$0 (0%)
Other known items first ignited	510 (4%)	0 (0%)	22 (5%)	\$12 (6%)
Total	15,350 (100%)	16 (100%)	413 (100%)	\$201 (100%)

## B. Clothes Dryers

Item First Ignited	Fires	Civilian Deaths	Civilian Injuries	Direct Property Damage (in Millions)
Clothing	4,240 (30%)	4 (26%)	165 (41%)	\$58 (21%)
Duct, filter, or lint	3,800 (27%)	5 (31%)	65 (16%)	\$37 (14%)
Unclassified soft goods or clothing	1,420 (10%)	0 (0%)	50 (12%)	\$19 (7%)
Appliance housing or casing	960 (7%)	4 (24%)	12 (3%)	\$12 (5%)
Wire or cable insulation	840 (6%)	0 (0%)	30 (8%)	\$11 (4%)
Linens other than bedding	660 (5%)	0 (0%)	15 (4%)	\$4 (2%)
Unclassified from first ignited	420 (3%)	0 (0%)	0 (0%)	\$2 (1%)
Bedspread or blanket	380 (3%)	0 (0%)	5 (1%)	\$7 (3%)
Interior wall covering	240 (2%)	3 (19%)	3 (1%)	\$11 (4%)
Flammable or combustible gas or liquid	140 (1%)	0 (0%)	29 (7%)	\$2 (1%)
Pipe, duct, conduit or hose	120 (1%)	0 (0%)	0 (0%)	\$1 (0%)
Multiple items first ignited	110 (1%)	0 (0%)	3 (1%)	\$2 (1%)
Drive belt	90 (1%)	0 (0%)	3 (1%)	\$0 (0%)
Structural member or framing	80 (1%)	0 (0%)	0 (0%)	\$4 (2%)
Goods not made up, including fabrics and yard goods	70 (1%)	0 (0%)	2 (1%)	\$0 (0%)
Other known items first ignited	560 (4%)	0 (0%)	18 (5%)	\$10 (4%)
Total	15,120 (100%)	10 (100%)	400 (100%)	\$190 (100%)

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Table 3. Home Fires Involving Washers or Dryers, by Item First Ignited (Continued)  
Annual Average of 2003-2006 Structure Fires Reported to U.S. Fire Departments  
(Excluding Fires Reported as Confined Fires)

## C. Washing Machines

Item First Ignited	Fires	Civilian Deaths	Civilian Injuries	Direct Property Damage (in Millions)
Wire or cable insulation	230 (25%)	0 (NA)	4 (6%)	\$1 (13%)
Appliance housing or casing	140 (15%)	0 (NA)	0 (0%)	\$2 (30%)
Drive belt	130 (15%)	0 (NA)	3 (43%)	\$6 (2%)
Unclassified from first ignited	60 (6%)	0 (NA)	1 (14%)	\$0 (1%)
Other known items first ignited	165 (18%)	0 (NA)	5 (69%)	\$2 (24%)
Total	600 (100%)	0 (NA)	17 (100%)	\$6 (100%)

NA -- Not applicable because total is zero.

## D. Combination Washer/Dryers

Item First Ignited	Fires	Civilian Deaths	Civilian Injuries	Direct Property Damage (in Millions)
Duct, filter, or lint	130 (24%)	0 (NA)	8 (49%)	\$1 (11%)
Clothing	90 (16%)	0 (NA)	0 (0%)	\$1 (25%)
Wire or cable insulation	70 (13%)	0 (NA)	4 (24%)	\$0 (0%)
Appliance housing or casing	70 (13%)	0 (NA)	0 (0%)	\$3 (49%)
Other known items first ignited	190 (35%)	0 (NA)	4 (27%)	\$3 (49%)
Total	540 (100%)	0 (NA)	16 (100%)	\$5 (100%)

NA -- Not applicable because total is zero.

Note: Figures include confined fires, which are fires reported as confined to duct burner or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial refrigerator. These are national estimates of fires reported to U.S. municipal fire departments and are calculated from reported only on federal or state agencies or individual fire brigades. National estimates are preliminary. Casualty and loss projections can be heavily influenced by the inclusion or exclusion of one unusually serious fire. Fires are rounded to the nearest ten, civilian deaths and injuries to the nearest one, and direct property damage to the nearest million dollars. Damage has not been adjusted for inflation. Figures reflect a proportional share of fires with equipment involved in ignition unknown. Fires reported as "no equipment" but having a continuing specific heat source (such as 49-59) are also treated as unknown equipment and allocated. Fires with this equipment and item first ignited unknown have also been allocated proportionately. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA survey.

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Table 4. Home Fires Involving Washers or Dryers, by Area of Origin  
Annual Average of 2003-2006 Structure Fires Reported to U.S. Fire Departments  
(Excluding Fires Reported as Confined Fires)

## A. Clothes Dryers and Washing Machines

Area of Origin	Fires	Civilian Deaths	Civilian Injuries	Direct Property Damage (in Millions)
Laundry room or area	12,500 (81%)	5 (31%)	379 (88%)	\$160 (79%)
Garage*	420 (3%)	0 (0%)	4 (1%)	\$11 (6%)
Other space or substructure space	350 (2%)	4 (26%)	16 (4%)	\$4 (2%)
Kitchen	350 (2%)	4 (24%)	10 (2%)	\$5 (2%)
Unclassified equipment or service area	260 (2%)	0 (0%)	7 (2%)	\$1 (1%)
Laundry or mail chute	140 (1%)	0 (0%)	3 (1%)	\$1 (1%)
Bedroom	140 (1%)	0 (0%)	2 (0%)	\$1 (1%)
Unclassified area of origin	110 (1%)	0 (0%)	0 (0%)	\$1 (1%)
Unclassified storage area	110 (1%)	0 (0%)	2 (1%)	\$2 (1%)
Heating equipment room	110 (1%)	0 (0%)	3 (1%)	\$1 (1%)
Unclassified structural area	100 (1%)	0 (0%)	3 (1%)	\$2 (1%)
Closet	100 (1%)	0 (0%)	0 (0%)	\$0 (0%)
Duct	90 (1%)	0 (0%)	0 (0%)	\$1 (0%)
Other known area of origin	550 (4%)	5 (31%)**	2 (1%)	\$11 (6%)
Total	15,250 (100%)	16 (100%)	453 (100%)	\$201 (100%)

\* Excluding mechanical garages used as storage space.

\*\* The laundry area of origin for the deaths and injuries is uncertain (4% of the deaths).

## B. Clothes Dryers

Area of Origin	Fires	Civilian Deaths	Civilian Injuries	Direct Property Damage (in Millions)
Laundry room or area	11,500 (81%)	5 (31%)	321 (88%)	\$130 (79%)
Garage*	400 (3%)	0 (0%)	4 (1%)	\$11 (6%)
Other space or substructure space	350 (2%)	4 (26%)	16 (4%)	\$4 (2%)
Kitchen	310 (2%)	4 (24%)	10 (2%)	\$5 (2%)
Unclassified equipment or service area	240 (2%)	0 (0%)	7 (2%)	\$1 (1%)
Laundry or mail chute	120 (1%)	0 (0%)	3 (1%)	\$1 (1%)
Bedroom	110 (1%)	0 (0%)	2 (1%)	\$1 (1%)
Heating equipment room	100 (1%)	0 (0%)	3 (1%)	\$1 (1%)
Unclassified storage area	100 (1%)	0 (0%)	0 (0%)	\$2 (1%)
Unclassified area of origin	90 (1%)	0 (0%)	0 (0%)	\$1 (0%)
Unclassified structural area	90 (1%)	0 (0%)	5 (1%)	\$1 (1%)
Closet	90 (1%)	0 (0%)	0 (0%)	\$0 (0%)
Duct	90 (1%)	0 (0%)	0 (0%)	\$1 (0%)
Other known area of origin	510 (4%)	5 (31%)**	0 (0%)	\$11 (6%)
Total	14,120 (100%)	16 (100%)	400 (100%)	\$190 (100%)

\* Excluding mechanical garages used as storage space.

\*\* The laundry area of origin for the deaths and injuries is uncertain (4% of the deaths).

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Table 4. Home Fires Involving Washers or Dryers, by Area of Origin (Continued)  
Annual Average of 2003-2006 Structure Fires Reported to U.S. Fire Departments  
(Excluding Fires Reported as Confined Fires)

## C. Washing Machines

Area of Origin	Fires	Civilian Deaths	Civilian Injuries	Direct Property Damage (in Millions)
Laundry room or area	580 (84%)	0 (NA)	17 (100%)	\$5 (81%)
Other known area of origin	110 (16%)	0 (NA)	0 (0%)	\$1 (16%)
Total	690 (100%)	0 (NA)	17 (100%)	\$6 (100%)

NA -- Not applicable because total is zero.

## D. Combination Washer/Dryers

Area of Origin	Fires	Civilian Deaths	Civilian Injuries	Direct Property Damage (in Millions)
Laundry room or area	420 (78%)	0 (NA)	11 (71%)	\$3 (65%)
Other known area of origin	120 (22%)	0 (NA)	3 (24%)	\$1 (25%)
Total	540 (100%)	0 (NA)	16 (100%)	\$5 (100%)

NA -- Not applicable because total is zero.

Note: Figures include confined fires, which are fires reported as confined to duct burner or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial refrigerator. These are national estimates of fires reported to U.S. municipal fire departments and are calculated from reported only on federal or state agencies or individual fire brigades. National estimates are preliminary. Casualty and loss projections can be heavily influenced by the inclusion or exclusion of one unusually serious fire. Fires are rounded to the nearest ten, civilian deaths and injuries to the nearest one, and direct property damage to the nearest million dollars. Damage has not been adjusted for inflation. Figures reflect a proportional share of fires with equipment involved in ignition unknown. Fires reported as "no equipment" but having a continuing specific heat source (such as 49-59) are also treated as unknown equipment and allocated. Fires with this equipment and area of origin unknown have also been allocated proportionately. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA survey.

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#### Appendix A. How National Estimates Statistics Are Calculated

The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's) National Fire Incident Reporting System (NFIRS) and the National Fire Protection Association's (NFPA's) annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed facts about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates.

NFIRS provides the most detailed incident information of any national database not limited to large fires. NFIRS is the only database capable of addressing national patterns for fires of all sizes by specific property use and specific fire cause. NFIRS also captures information on the extent of flame spread, and automatic detection and suppression equipment. For more information about NFIRS visit <http://www.nfirs.fema.gov/>. Copies of the paper forms may be downloaded from [http://www.nfpa.com/documentation/design/nfirs\\_forms\\_forms\\_2008.pdf](http://www.nfpa.com/documentation/design/nfirs_forms_forms_2008.pdf).

NFIRS has a wide variety of data elements and code choices. The NFIRS database contains coded information. Many code choices describe several conditions. These cannot be broken down further. For example, area of origin code 83 captures fires starting in vehicle engine areas, running gear areas or wheel areas. It is impossible to tell the portion of each from the coded data.

#### Methodology may change slightly from year to year.

NFPA is continually examining its methodology to provide the best possible answers to specific questions, methodological and definitional changes can occur. Earlier editions of the same report may have used different methodologies to produce the same analysis, meaning that the estimates are not directly comparable from year to year.

#### NFPA's fire department experience survey provides estimates of the big picture.

Each year, NFPA conducts an annual survey of fire departments which enables us to distill a summary of fire department experience on a larger scale. Surveys are sent to all municipal departments protecting populations of 50,000 or more and a random sample, stratified by community size, of the smaller departments. Typically, a total of roughly 3,000 surveys are returned, representing about one of every ten U.S. municipal fire departments and about one third of the U.S. population.

The survey is stratified by size of population protected to reduce the uncertainty of the final estimate. Small rural communities have fewer people protected per department and are less likely to respond to the survey. A larger number must be

surveyed to obtain an adequate sample of those departments. (NFPA also makes follow-up calls to a sample of the smaller fire departments that do not respond, to confirm that those that did respond are truly representative of fire departments their size.) On the other hand, large city departments are so few in number and protect such a large proportion of the total U.S. population that it makes sense to survey all of them. Most respond, resulting in excellent precision for their part of the final estimate.

The survey includes the following information: (1) the total number of fire incidents, civilian deaths, and civilian injuries, and the total estimated property damage (in dollars), for each of the major property use classes defined in NFIRS; (2) the number of on-duty firefighter injuries, by type of duty and nature of illness; (3) the number and nature of non-fire incidents; and (4) information on the type of community protected (e.g., county versus township versus city) and the size of the population protected, which is used in the statistical formulae for projecting national levels from sample results. The results of the survey are published in the annual report *Fire Loss in the United States*. To download a free copy of the report, visit [http://www.nfpa.org/press/files/PDF/FLS\\_fulltext.pdf](http://www.nfpa.org/press/files/PDF/FLS_fulltext.pdf).

#### Projecting NFIRS to National Estimates

As noted, NFIRS is a voluntary system. Different states and jurisdictions have different reporting requirements and practices. Participation rates in NFIRS are not necessarily uniform across regions and community sizes, both factors correlated with frequency and severity of fires. This means NFIRS may be susceptible to systematic biases. No one in perfect can quantify the size of these deviations from the ideal, representative sample, so no one can say with confidence that they are or are not serious problems. But there is enough reason for concern so that a second database – the NFPA survey – is needed to project NFIRS to national estimates and to project different parts of NFIRS separately. This multiple calibration approach makes use of the annual NFPA survey where its statistical design advantages are strongest.

Scaling ratios are obtained by comparing NFPA's projected totals of residential structure fires, non-residential structure fires, vehicle fires, and outside and other fires, and associated civilian deaths, civilian injuries, and direct property damage with comparable totals in NFIRS. Estimates of specific fire problems and circumstances are obtained by multiplying the NFIRS data by the scaling ratios. Reports for incidents in which mutual aid was given are excluded NFPA's analyses.

Analysts at the NFPA, the USFA and the Consumer Product Safety Commission developed the specific basic analytical rules used for this procedure. "The National Estimates Approach to U.S. Fire Statistics," by John R. Hall, Jr. and Beatrice Harwood, provides a more detailed explanation of national estimates. A copy of the article is available online at <http://www.nfpa.org/csa/> or through NFPA's One-Stop Data Shop.

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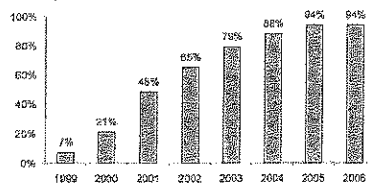
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Version 5.0 of NFIRS, first introduced in 1999, used a different coding structure for many data elements, added some property use codes, and dropped others. The essentials of the approach described by Hall and Harwood are still used, but some modifications have been necessary to accommodate the changes in NFIRS 5.0.

Figure 1 shows the percentage of fires originally collected in the NFIRS 5.0 system. Each year's release version of NFIRS data also includes data collected in older versions of NFIRS that were converted to NFIRS 5.0 codes.

Figure 1. Fires Originally Collected in NFIRS 5.0 by Year



For 2002 data on, analyses are based on scaling ratios using only data originally collected in NFIRS 5.0.

#### NFPA survey projections NFIRS totals (Version 5.0)

For 1999 to 2001, the same rules may be applied, but estimates for these years in this form will be less reliable due to the smaller amount of data originally collected in NFIRS 5.0; they should be viewed with extreme caution.

NFIRS 5.0 introduced six categories of confined structure fires, including:

- cooking fires confined to the cooking vessel,
- confined chimney or flue fires,
- confined incinerator fire,
- confined fuel burner or boiler fire or delayed ignition,
- confined commercial compressor fire, and
- trash or rubbish fires in a structure with no flame damage to the structure or its contents.

Although causal and other detailed information is typically not required for those incidents, it is provided in some cases (typically 10-30%). Some analyses, particularly

those that examine cooking equipment, heating equipment, fires caused by smoking materials, and fires started by playing with fire, may examine the confined fires in greater detail. Because the confined fire incident types describe certain scenarios, the distribution of unknown data differs from that of all fires. Consequently, allocation of unknowns must be done separately.

Some analyses of structure fires show only non-confined fires. In these tables, percentages shown are of non-confined structure fires rather than all structure fires. This approach has the advantage of showing the frequency of specific factors in fire causes, but the disadvantage of possibly oversteering the percentage of factors that are seldom seen in the confined fire incident types.

Other analyses include entries for confined fire incident types in the causal tables and show percentages based on total structure fires. In these cases, the confined fire incident type is treated as a general causal factor.

For most fields other than Property Use, NFPA allocates unknown data proportionally among known data. This approach assumes that if the missing data were known, it would be distributed in the same manner as the known data. NFPA makes additional adjustments to several fields. *Usually and last projections can be heavily influenced by the inclusion or exclusion of unusually serious fire.*

In the formulas that follow, the term "all fires" refers to all fires in NFIRS on the dimension studied.

**Factor Contributing to Ignition:** In this field, the code "none" is treated as an unknown and allocated proportionally. For Human Factor Contributing to Ignition, NFPA enters a code for "not reported" when no factors are recorded. "Not reported" is treated as an unknown, but the code "none" is treated as a known code and not allocated. Multiple entries are allowed in both of these fields. Percentages are calculated on the total number of fires, not entries, resulting in sums greater than 100%. Although Factor Contributing to Ignition is only required when the cause of ignition was coded as: 2) unintentional, 3) failure of equipment or heat source; or 4) act of nature, data is often present when not required. Consequently, any fire in which no factor contributing to ignition was entered was treated as unknown.

In some analyses, all entries in the category of electrical failure or malfunction (factor contributing to ignition 10-39) are combined and shown as "electrical failure or malfunction." This category includes:

31. Water-caused short circuit arc;
32. Short-circuit arc from mechanical damage;
33. Short-circuit arc from defective or worn insulation;
34. Unspecified short circuit arc;
35. Arc from faulty contact or broken connector, including broken power lines and

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- house connections;  
 36. Arc or spark from operating equipment, switch, or electric fence;  
 37. Fluorescent light ballast; and  
 38. Electrical failure or malfunction, other.

**Type of Material First Ignited (TMI).** This field is required only if the Item First Ignited falls within the code range of 40-69. NFPA has created a new code "not required" for this field that is applied when Item First Ignited is in code 70-99 (organic materials, including cooking materials and vegetation, and general materials, such as electrical wire, cable insulation, transformers, tires, books, newspaper, dust, rubbish, etc.) and TMI is blank. The rule for allocation of unknown data is:

(All fires -- TMI Not required)  
 (All fires -- TMI Not Required -- Undetermined -- Blank)

**Heat Source.** In NFIRS 5.0, one grouping of codes encompasses various types of open flames and smoking materials. In the past, there had been two separate groupings. A new code was added to NFIRS 5.0, which is code 60: "Heat from open flame or smoking material, other." NFPA treats this code as a partial unknown and allocates it proportionally across the codes in the 61-69 range, shown below.

61. Cigarette;  
 62. Pipe or cigar;  
 63. Heat from undetermined smoking material;  
 64. Match;  
 65. Lighter, cigarette lighter, cigar lighter;  
 66. Candle;  
 67. Warning or road flare, fuse;  
 68. Backfire from internal combustion engine. Excludes flames and sparks from an exhaust system, (11); and  
 69. Flame/torch used for lighting. Includes gas light and gas/liquid-fueled lantern.

In addition to the conventional allocation of missing and undetermined fires, NFPA multiplies fires with codes in the 61-69 range by

"All fires in range 60-69"  
 All fires in range 61-69

The downside of this approach is that heat sources that are truly a different type of open flame or smoking material are erroneously assigned to other categories. The grouping "smoking materials" includes codes 61-63 (cigarettes, pipes or cigars, and heat from undetermined smoking material, with a proportional share of the code 60 and its unknown data.

**Equipment Involved in Ignition (EII).** NFIRS 5.0 originally defined EII as the piece of

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equipment that provided the principal heat source to cause ignition if the equipment malfunctioned or was used improperly. In 2006, the definition was modified to "the piece of equipment that provided the principal heat source to cause ignition." However, much of the data precludes the change. Individuals who have already been trained with the older definition may not change their practices. To compensate, NFPA treats fires in which EII = NNN and heat source is not in the range of 40-99 as an additional unknown.

To allocate unknown data for EII, the known data is multiplied by

All fires  
 (All fires -- blank -- undetermined -- fires in which EII = NNN and heat source <40-99)

In addition, the partially unclassified codes for broad equipment groupings (i.e., code 100, heating, ventilation, and air conditioning, other; code 200, electrical distribution, lighting and power transfer, other; etc.) were allocated proportionally across the individual code choices in their respective broad groupings (heating, ventilation, and air conditioning; electrical distribution, lighting and power transfer, other; etc.). Equipment that is totally unclassified is not allocated further. This approach as the same downside as the allocation of heat source 60 described above. Equipment that is truly different is erroneously assigned to other categories.

In some analyses, various types of equipment are grouped together. (Confined fire incident types are not discussed here)

Code Grouping	EII Code	NFIRS definitions
Central heat	182	Furnace or central heating unit
	183	Boiler (power, process or heating)
Fixed or portable space heater	131	Furnace, local heating unit, built-in
	123	Fireplace with insert or stove
	124	Heating stove
	141	Heater, excluding catalytic and oil-filled
	142	Catalytic heater
Fireplace or chimney	143	Oil-filled heater
	121	Fireplace, masonry
	122	Fireplace, factory-built
	125	Chimney connector or vent connector
	126	Chimney -- brick, stone or masonry
	127	Chimney-metal, including stovepipe or flue
Wiring, switch or outlet	210	Unclassified electrical wiring
	211	Electrical power or utility line

House Fires Involving Clothes Dryers  
 And Washing Machines, 3/09 20 NFPA Fires Analysis & Research, Quincy, MA

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Power switch gear or overcurrent protection device	212	Electrical service supply wires from utility
	214	Wiring from meter box to circuit breaker
	216	Electrical branch circuit
	217	Outlet, receptacle
Lamp, bulb or lighting	218	Wall switch
	215	Panel board, switch board, circuit breaker board
	219	Ground fault interrupter
	222	Overcurrent, disconnect equipment
Cord or plug	227	Surge protector
	230	Unclassified lamp or lighting
	231	Lamp-tabletop, floor or desk
	232	Lantern or flashlight
	233	Incandescent lighting fixture
	234	Fluorescent light fixture or ballast
	235	Halogen light fixture or lamp
	236	Sodium or mercury vapor light fixture or lamp
	237	Work or trouble light
	238	Light bulb
Torch, burner or soldering iron	241	Nightlight
	242	Decorative lights -- line voltage
	243	Decorative or landscape lighting -- low voltage
	244	Sign
Portable cooking or warming equipment	260	Unclassified cord or plug
	261	Power cord or plug, detachable from appliance
	262	Power cord or plug, permanently attached
	263	Extension cord
Portable cooking or warming equipment	331	Welding torch
	332	Cutting torch
	333	Burner, including Bunsen burners
	334	Soldering equipment
House Fires Involving Clothes Dryers And Washing Machines, 3/09	631	Coffee maker or teapot
	632	Food warmer or hot plate
	633	Kettle

House Fires Involving Clothes Dryers  
 And Washing Machines, 3/09 21 NFPA Fires Analysis & Research, Quincy, MA

634	Pycorn popper
635	Pressure cooker or vacuum
636	Slow cooker
637	Toaster, toaster oven, counter-top toaster
638	Waffle iron, griddle
639	Wok, frying pan, skillet
641	Breadmaking machine

**Item First Ignited.** In most analyses, mattress and pillows (item first ignited 31) and bedding, blankets, sheets, and comforters (item first ignited 32) are combined and shown as "mattresses and bedding." In many analyses, wearing apparel not on a person (code 34) and wearing apparel on a person (code 35) are combined and shown as "clothing." In some analyses, flammable and combustible liquids and gases, piping and filters (item first ignited 60-69) are combined and shown together.

**Area of Origin.** Two areas of origin, bedroom for more than five people (code 21) and bedroom for less than five people (code 22) are combined and shown as simply "bedroom."

**Rounding and percentages.** The data shown are estimates and generally rounded. An entry of zero may be a true zero or it may mean that the value rounds to zero. Percentages are calculated from rounded values. It is quite possible to have a percentage entry of up to 100%, even if the rounded number entry is zero. The same rounded value may account for a slightly different percentage share. Because percentages are expressed in integers and not carried out to several decimal places, percentages that appear identical may be associated with slightly different values.

**Inflation.** Property damage estimates are not adjusted for inflation unless so indicated.

House Fires Involving Clothes Dryers  
 And Washing Machines, 3/09 22 NFPA Fires Analysis & Research, Quincy, MA

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Overheated Clothes Dryers Can Cause Fires, Safety Alert

CESC Alert - Publications - Current



## US Consumer Product Safety Commission

Consumer Product Safety Commission

## Overheated Clothes Dryers Can Cause Fires

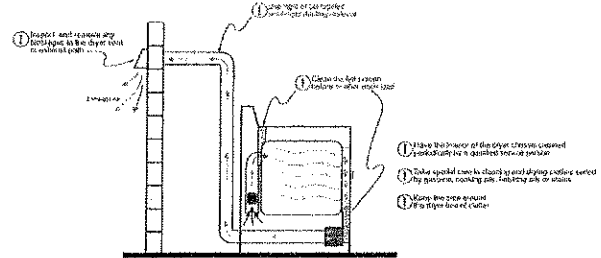
CPSC Document # 5022  
Updated June 2003

The U.S. Consumer Product Safety Commission estimates that in 1999, clothes dryers were associated with 15,600 fires, which resulted in 20 deaths and 370 injuries. Fires can occur when lint builds up in the dryer or in the exhaust duct. Lint can block the flow of air, cause excessive heat build-up, and result in a fire in some dryers.

## To help prevent fires:

- Clean the lint screen/filter before or after drying each load of clothes. If clothing is still damp at the end of a typical drying cycle or drying requires longer times than normal, this may be a sign that the lint screen or the exhaust duct is blocked.
- Clean the dryer vent and exhaust duct periodically. Check the outside dryer vent while the dryer is operating to make sure exhaust air is escaping. If it is not, the vent or the exhaust duct may be blocked. To remove a blockage in the exhaust path, it may be necessary to disconnect the exhaust duct from the dryer. Remember to reconnect the ducting to the dryer and outside vent before using the dryer again.
- Clean behind the dryer, where lint can build up. Have a qualified service person clean the interior or the dryer chassis periodically to minimize the amount of lint accumulation. Keep the area around the dryer clean and free of clutter.
- Replace plastic or foil, accordion-type ducting material with rigid or corrugated semi-rigid metal duct. Most manufacturers specify the use of a rigid or corrugated semi-rigid metal duct, which provides maximum airflow. The flexible plastic or foil type duct can more easily trap lint and is more susceptible to kinks or crushing, which can greatly reduce the airflow.
- Take special care when drying clothes that have been soiled with volatile chemicals such as gasoline, cooking oil, cleaning agents, or flammable oils and stains. If possible, wash the clothing more than once to minimize the amount of volatile chemicals on the clothes and, preferably, hang the clothes to dry. If using a dryer, use the lowest heat setting and a drying cycle that has a cool-down period at the end of the cycle. To prevent clothes from igniting after drying, do not leave the dried clothes in the dryer or pile in a laundry basket.

Overheated Clothes Dryers Can Cause Fires, Safety Alert



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The U.S. Consumer Product Safety Commission is charged with protecting the public from unreasonable risks of serious injury or death from thousands of types of consumer products under the agency's jurisdiction. The CPSC is committed to protecting consumers and families from products that pose a fire, electrical, chemical, or mechanical hazard. The CPSC's work to ensure the safety of consumer products - such as toys, cars, power tools, cigarette lighters, and household chemicals - contributed significantly to the decline in the rate of deaths and injuries associated with consumer products over the past 30 years.

To report a dangerous product or a product-related injury, call CPSC's hotline at (800) 658-2772 or CPSC's telephonenumber at (301) 556-7054, or visit CPSC's web site at [www.cpsc.gov](http://www.cpsc.gov). To join a CPSC e-mail subscription list, please go to <http://www.cpsc.gov/subscribe>. Consumers can obtain this release and read information at CPSC's Web site at [www.cpsc.gov](http://www.cpsc.gov).

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<http://www.cpsc.gov/cpsc/publications/5022.html> [3/7/2010 2:00:27 PM]

<http://www.cpsc.gov/cpsc/publications/5022.html> [3/7/2010 2:00:27 PM]

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32-5034-04

## User's Information Guide

Gas Furnaces — Non-Condensing  
Fan Assisted Combustion System  
Upflow / Horizontal and Downflow / Horizontal

**WARNING**

If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- **WHAT TO DO IF YOU SMELL GAS**
  - Do not try to light any appliance.
  - Do not touch any electrical switch; do not use any phone in your building.
  - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
  - If you cannot reach your gas supplier, call the fire department.
- **DO NOT RELY ON SMELL ALONE TO DETECT LEAKS. DUE TO VARIOUS FACTORS, YOU MAY NOT BE ABLE TO SMELL FUEL GASES.**
- U.L. recognized fuel gas and CO detectors are recommended in all applications, and their installation should be in accordance with the manufacturer's recommendations under local laws, rules, regulations, or customs.
- Installation and service must be performed by a qualified installer, service agency or the gas supplier.

**WARNING**

DO NOT USE THIS UNIT IF ANY PART HAS BEEN UNDER WATER. IMMEDIATELY CALL A QUALIFIED SERVICE TECHNICIAN TO INSPECT THE FURNACE AND TO REPLACE ANY PART OF THE CONTROL SYSTEM AND ANY GAS CONTROL WHICH HAS BEEN UNDERWATER.

**GENERAL INFORMATION**

Understand the signal words DANGER, WARNING, and CAUTION. These words are safety alert words. DANGER indicates the most serious hazards which will result in severe personal injury or death. WARNING indicates hazards which could result in personal injury or death. CAUTION indicates a hazard which could result in minor injury or property damage.

## Contents

## Dangers, Warnings &amp; Cautions

## General Information

## To Start the Furnace

## Proper Maintenance

## The Problem Solver

## Regular Dealer Maintenance

## Warranty

## IMPORTANT FACTS

The flow of combustion and venting air must not be obstructed from reaching the furnace. Air openings provided in the casing of the furnace must be kept free of obstructions which would restrict airflow, thereby affecting efficiency and safe operation of your furnace.

Also, air openings provided in the area in which the furnace is installed and the space around the furnace shall not be blocked or obstructed. Keep this in mind should you ever come to renovate the area which contains your furnace. If additional insulation is added after the furnace is installed, the area around the furnace must be kept clear to ensure it is free and clear of obstruction. If this furnace is installed in an attic or other confined space, it must be kept clear and clear of all insulating materials as some insulating materials are combustible. Furnaces must have adequate proper performance. These must be free flow of fresh air sufficient for efficient combustion and safe ventilation of your furnace.

The combustion gas for your furnace must be fresh, uncontaminated air. Fumes, vapors, fumes, fumes, detergents, many household cleaners, water-reducing solvents, adhesives, and all such products release fumes containing components which could lead to early heat exchanger and vent system deterioration. Do not store these types of products near your furnace.

Never store gasoline, kerosene, oil, or other flammable liquids or vapors near your furnace.

Caution: Always, fire or smoke can cause serious bodily injury, death, and/or property damage.

## User's Information

A variety of potential sources of carbon monoxide can be found in a building or dwelling such as gas-fired clothes dryers, gas cooking stoves, water heaters, furnaces and fireplaces. The U.S. Consumer Product Safety Commission estimates that more than 100,000 people die each year from carbon monoxide poisoning. Carbon monoxide is a colorless, odorless, tasteless gas that is produced by the incomplete combustion of any fuel that contains carbon. It is a deadly poison that can kill you in minutes. To help prevent carbon monoxide poisoning, the CPSC has developed this guide to help you understand the risks of carbon monoxide.

**NOTE:** The manufacturer of your furnace does not test any detector and makes no representations regarding any brand or type of detector.

**WARNING**

SEVERE INJURY CAN RESULT FROM HIGH VOLTAGE ELECTRICAL COMPONENTS, FAST MOVING PARTS, AND COMBUSTIBLE GAS. FOR PROTECTION FROM THESE POTENTIAL HAZARDS DURING INSTALLATION AND SERVICING, THE ELECTRICAL SUPPLY MUST BE DISCONNECTED AND THE MAIN GAS VALVE MUST BE TURNED OFF.

Lighting instructions:  
Your furnace does not use a continuously burning pilot flame. Therefore, manually lighting your furnace is not required. Your furnace is equipped with an automatic ignition system. It uses a hot surface ignition device that automatically lights the burners each time the thermostat signals the furnace to start.

**WARNING**

Do not attempt to manually light the furnace.

1. Please read all safety information in this book before operating the furnace.
2. Set thermostat to lowest setting. Turn off all electric power to furnace.
3. Remove the furnace front panel to gain access to the burner gas valve.
4. Turn gas cock knob clockwise or the toggle switch located on the main gas valve inside the unit to "OFF" position (see illustration on next page). If external gas cock is used, turn to "OFF" position (see illustration on next page). Follow 6 minutes for any gas within the unit to escape. If gas is being heavier than air may require forced ventilation. If you smell gas STOP! Follow the "What To Do If You Smell Gas" instructions on the front cover of this book. If you do not smell gas, go to next step.
5. Turn gas cock knob counterclockwise or the toggle switch to "ON" position (see illustration on next page).
6. Restore the furnace front access panel.

Installing and servicing heating equipment can be hazardous due to gas and electrical components. Only trained and qualified personnel should install, repair or service heating equipment.

Untrained personnel can perform basic maintenance functions such as cleaning and replacing filters. All other operations must be performed by a licensed service person.

Fuels and models of this furnace are unique. Should service or modification be required, be sure your service uses only factory authorized parts, kits, or accessories for this furnace. If you experience a problem with the operation of your furnace, check the "Problem Solver" section of this manual before you call for a possibly unwanted service call.

**WARNING**

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to the installation instructions provided with the furnace and this manual. For assistance or additional information consult a qualified installer, service agency or the gas supplier.

## To Start the Furnace

7. Turn on main electrical supply and set thermostat to desired setting. Combustion burner will start and ignition device will start to heat up. After approximately 10 seconds main gas valve will open and furnace will ignite.
8. When thermostat is satisfied, main burners will extinguish.
9. If main burners fail to ignite, leave thermostat setting or depressed electrical supply, wait 5 minutes, then thermostat setting above indicated temperature.
10. If furnace will not light, turn "OFF" gas and electrical to unit and call service or gas supplier.

For complete shutdown, turn gas cock knob to "OFF" position. Disconnect electrical supply to unit.

**CAUTION**

If this is done during the cold weather months, provisions must be taken to prevent freezing of all water pipes and water receptacles.

Whenever your house is to be vacant, arrange to have someone inspect your house for proper temperature. If your furnace should fail to operate, damage could result, such as frozen water pipes.

All models are equipped with a flame lock located near the burners. In case of flame rollout, the flame will go out and cause the circuit to open which will cut off all flow of gas.

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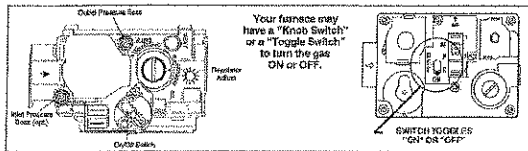
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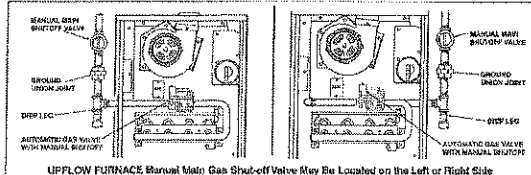
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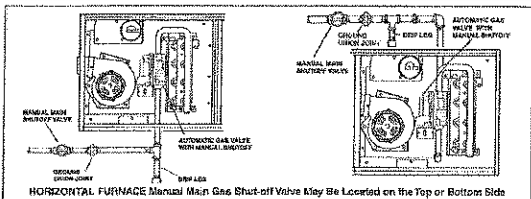
## User's Information



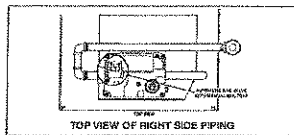
NOTE THE LOCATION OF THE MANUAL MAIN GAS SHUT-OFF VALVE FOR YOUR FURNACE. Have your installer or service show you the location if you have any questions.



UPFLOW FURNACE Manual Main Gas Shut-off Valve May Be Located on the Left or Right Side



HORIZONTAL FURNACE Manual Main Gas Shut-off Valve May Be Located on the Top or Bottom Side



TOP VIEW OF RIGHT SIDE PIPING

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## User's Information

Proper Maintenance  
Reduces Energy Use

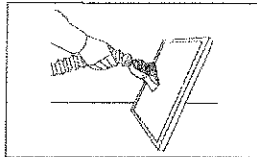
A clean filter saves money. When the furnace circulates and filters the air in your home, dust and dirt particles build up on the filter. Excessive accumulation can block the airflow, forcing the unit to work harder to maintain desired temperatures. And the harder your unit has to work, the more energy it uses. So you can save any time your system is running with a dirty filter.

## A CAUTION

Never operate your unit for either heating or cooling with filters removed.

Keep return top efficiency by cleaning the filter once a month. If you have an upflow furnace, you can walk or change the filter once a month. Close it twice a month during seasons when the unit runs more often.

Your furnace comes from the factory with a pleated filter. You can clean the filter with a vacuum. Or you can wash it with a household detergent. Good quality, high-velocity filters may be used for replacements in upflow furnaces.



With the new pleated filter pack on the upflow models, all cleaning or replacing of filters is quick and easy. Close filters for optimum performance of your system.

## FACTORY SUPPLIED UPFLOW FURNACE RETURN AIR FILTERS

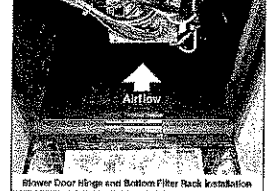
CABINET WIDTH	QTY*	CABINET BOTTOM FILTER	CABINET SIDE FILTER
14-1/2"	1	14" X 25" X 1"	17-1/2" X 25" X 1"
17-1/2"	1	17" X 25" X 1"	17-1/2" X 25" X 1"
21"	1	20" X 25" X 1"	17-1/2" X 25" X 1"
24-1/2"	1	24" X 25" X 1"	17-1/2" X 25" X 1"

NOTE - On 5 ton air flow models, if the airflow replacement exceeds 1800 CFM, these models will require filters on both sides (2) 1 side and the bottom (2) see the bottom.

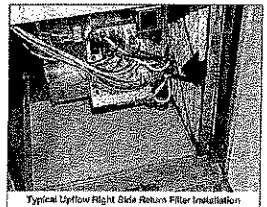
Replacing your filter. When replacing your furnace filter, use a high velocity type filter. On upflow furnaces, standard size 1" thick high velocity filters will fit into the standard filter rack which will automatically adjust to width to fit. Filters are available from your dealer.

## How to remove your filter.

The upflow furnace blower door has a hinge at the bottom which allows the door to tilt forward for filter servicing or replacement without the door being removed. The furnace filter in the bottom or side configuration can be removed by simply turning the two handles on the blower door 1/4 turn and tilting the door forward.



The blower door may be removed if necessary by tilting the door outward 1/4 turn, then pulling up. The door will slide out of the hinge for removal. For replacement, simply insert the blower door bottom into the space between the furnace base and the floor, then tilt inward and latch.



Typical Upflow Right Side Return Filter Installation

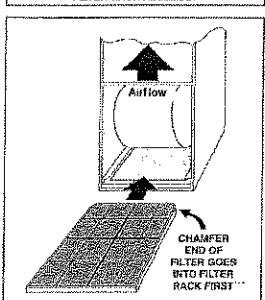
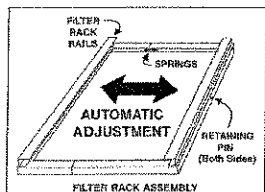
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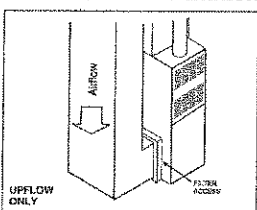
EHP LARSON 073963

## User's Information

The filter rails are spring loaded for automatic adjustment to allow standard size, pleated replaceable filters. The filter rack itself allows to adjust to the required width, rounded for bottom or side return. Always insert the pleated (single edged) side first.

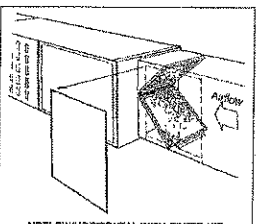


The furnace filter may be secured with filter retaining brackets for right side return on smaller furnaces. To replace filters on these furnaces, remove the blower access door, push back to flex the filter and move the filter retaining bracket at the front of the unit. Gently push the filter out. After cleaning, replace the filter in the same manner making sure that filter is secured in place in both front and back filter retaining brackets of the unit. Reinstall blower access door. All filters may also be located outside of the furnace using a SIDE FILTER FRAME.



Upflow/Horizontal Furnace Filters. The Upflow/Horizontal furnace, when installed horizontally, requires a horizontal filter kit. The filters may be located within the furnace or in the return air duct near the furnace. Check with your dealer for the location of your filters.

An upflow/horizontal furnace in horizontal return air filter application, as shown, requires two 14" x 25" x 1" filters in the 14-1/2" side return or two 16" x 25" x 1" filters in the 17-1/2", 21", and 24-1/2" wide furnace cabinets.



To replace filters, remove the filter access door, lift the filter from the lower bracket and shift the filter to the side to flex the top filter from the brackets and slide the filters out through the filter access door. After cleaning, replace the filters in the same manner making sure that the filters are secured in place in both top and bottom filter brackets. Reinstall filter access door. All filters may also be located outside of the furnace using a return filter grille. The filter grille could be in a hallway, wall, or in the ceiling. Check with your dealer for the exact location of your filter and the method of changing the filters.

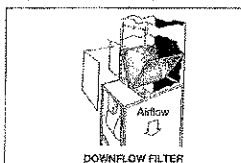
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EHP LARSON 073964

## User's Information

Downflow Furnace Filters. Downflow Horizontal furnaces are factory supplied with 2 standard size permanent type air filters which may be located remote to the furnace or at the return air duct. Check with your dealer for the location of your filters.



A downflow/horizontal furnace vertical return air filter application, as shown, requires two 14" x 25" x 1" filters in the 14-1/2" side return or two 16" x 25" x 1" filters in the 17-1/2", 21", and 24-1/2" wide furnace cabinets.

CABINET WIDTH	FILTER QUANTITY & SIZE
14-1/2"	2 - 14" X 25" X 1"
17-1/2"	2 - 16" X 25" X 1"
21"	2 - 16" X 25" X 1"
24-1/2"	2 - 16" X 25" X 1"

## The Problem Solver

A furnace is not a household appliance. It is complex and requires professional maintenance and repair. Thank you for installing an "As-You-Need" furnace on an important unit may void the remainder of your warranty. Other than performing the simple maintenance review, specified in this manual, you should not attempt to make any adjustments to your furnace. Your dealer will be able to take

care of any questions or problems you may have. A periodic inspection of your furnace should be made by a qualified service agency at the start of each heating season. Keep your furnace working the new for years. Clean the control board of your furnace with ordinary soap and water. Use a household grease remover, use a household detergent. Longer filters or other synthetic solvents may damage the board.

## Save time and money. Before calling for service, check the following:

Problem	Possible Trouble	Possible Remedy
No Heating - Blower does not operate.	1. Thermostat set incorrectly. 2. Blower fuse or tripped circuit breaker. 3. Defective component. 4. Blower door not tight. 5. Main gas line blocked off. 6. Blower door removed or ajar. 7. Locks.	1. Adjust thermostat. See operating instructions. 2. Replace or reset protection device or call for service. 3. Motor controls as a technician and will replace, if ... 4. Call service. 5. Have gas company check. 6. Close door securely to restore power to blower and gas valve. 7. Turn power switch on/off twice in 30 seconds.
Insufficient Heating - Blower operates continuously.	1. Dirty air filters. 2. Blower supply air return registers.	1. Clean or replace filters. 2. Make sure registers are open and no obstructions blocking off the air.
No Heat - Vent motor is running.	Recirculation or plugged furnace condensate drain.	1. Remove drain clog by concentrate trap and root pen outlet. 2. Flush or clean drain passages. 3. Reset drain clog.
Unusual Noises		Call your service.

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## User's Information

The following warning complies with State of California law, Proposition 65.

## WARNING

**THIS PRODUCT CONTAINS FIBERGLASS WOOL INSULATION.**  
Fiberglass dust and ceramic fibers are believed by the State of California to cause cancer through inhalation. Glass wool fibers may also cause respiratory, skin, or eye irritation.

## PRECAUTIONARY MEASURES

- Avoid breathing fiberglass dust.
- Use a NIOSH approved respirator.
- Avoid contact with the skin or eyes. Wear long-sleeved, loose-fitting clothing, gloves, and eye protection.
- When clothes are soiled from other clothing, rinse thoroughly.
- Conditions such as sewing, blowing, tear-out, and spraying may generate dust concentrations requiring additional respiratory protection. Use the appropriate NIOSH approved respirator in these situations.

## FIRST AID MEASURES

- Eye Contact** — Flush eyes with water to remove dust. If symptoms persist, seek medical attention.
- Skin Contact** — Wash affected areas gently with soap and warm water after handling.

## WARNING

## CARBON MONOXIDE POISONING HAZARD

Failure to follow the installation and operation instructions for the venting system's operation could result in carbon monoxide poisoning or death.

## Regular Dealer Maintenance

Never stop the cooling system by shutting off the main power.

If the main power to your air conditioner is ever disconnected for more than three hours, turn off the thermostat. Then wait for at least three more hours after the power has been restored before turning the thermostat back on. Failure to follow this procedure could result in damage to your air conditioning system.

- GENERAL INSPECTION** — Examine the furnace installation for the following items:
  - All gas (natural or propane) lines external to the furnace (i.e., chimney, vent connector) are clean and free of obstruction.
  - The vent connector is in place, slopes upward and is physically sound without leaks or excessive corrosion.
  - The return air duct connection is physically sound, is sealed to the furnace and is unobstructed outside the space containing the furnace.
  - The physical support of the furnace should be sound without sagging, cracks, gaps, etc., around the base or as to provide a seal between the support and the base.
  - There are no obvious signs of deterioration of the furnace.

The following warning complies with State of California law, Proposition 65.

## WARNING

## Hazardous Gases

Exposure to fuel substances or by-products of incomplete fuel combustion is believed by the State of California to cause cancer, birth defects, or other reproductive harm.

- BLOWERS** — The blower fan speed depends on the air volume delivered by the furnace. The blower motor bearings are factory lubricated and under normal operating conditions usually do not require servicing. Annual cleaning of the blower wheel and housing is recommended for maximum air output, and this must be performed only by a qualified service or service agency.

## WARNING

Unit is equipped with a blower door switch which cuts power to blower and gas valve resulting shutdown when door is removed. Unit must not be altered to allow operation with the blower door removed. Operation with doors removed or door open permit the escape of dangerous fumes. All panels must be securely closed at all times for safe operation of the furnace.

## User's Information

- IGNITER** — This unit has a spark igniter located inside the burner assembly. Ignite the burners. Please note that it is very fragile and should be handled with care.

## CAUTION

Do not touch igniter. It is extremely hot.

- BURNER** — Gas burners do not normally require scheduled servicing. However, accumulation of foreign material may cause a pulsing flame or delayed ignition. Blower combustion indicators that a service call is required. For best operation, burners must be cleaned regularly using bristles and vacuum cleaner.

Turn off gas and electric power supply. To clean burners, use a dry brush to clean over 1/8" burner from orifice.

**NOTE:** Be careful not to break igniter when removing burner.

Clean burners with brush and vacuum cleaner.

Reassemble parts by reversal of the above procedure.

**NOTE:** On LP (propane) units, some light yellow tipping of the outer mantle is normal. Inner mantle should be bright blue.

Natural gas units should not have any yellow tipped flames. This condition indicates that a service call is required. For best operation, burners must be cleaned regularly using bristles and vacuum cleaner.

**NOTE:** On LP (propane) units, due to variations in BTU content and altitude, servicing may be required at shorter intervals.

- HEAT EXCHANGER / FLUE PIPES** — These items must be inspected for signs of corrosion, and/or deterioration at the beginning of each heating season by a qualified service technician and cleaned annually for best operation.

- CRUISE PROTECTION** — If blowers or gas valves fail to operate, the owner could be the direct breaker or a loss of burner flame. Replace fan or reset cruise breaker.
- IGNITION** — Your warm air furnace should not be operated in a corrosive atmosphere. Fluids, solvents, cleaning chemicals, spray products, and lubricants should not be used in the vicinity of the furnace during normal operation.

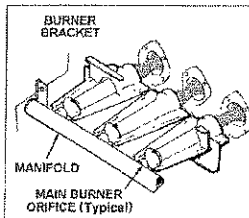
- CONDENSATE DRAINS** — If you have a cooling coil installed with your furnace, condensation drain should be checked and cleaned periodically to assure that condensation can drain freely from coil to drain. If condensation cannot drain freely, water damage could occur. Furnace drain should also be checked & cleaned at the start of each heating season.

- AIR CIRCULATION** — To ensure increased comfort, the blower on this unit may be operated continuously for both heating and cooling. This will result in constantly filtered air and aid in maintaining a more comfortable humidity level throughout the conditioned area. To accomplish constant air circulation, set your thermostat fan switch to "ON".

## WARNING

Should overheating occur, or the gas supply fail to shut off, shut off the manual gas valve to the furnace before shutting off the electrical supply.

In the event that electrical, fuel or mechanical failure occurs, the owner should immediately turn off the gas supply of the manual gas valve located in the burner compartment and electrical power to the furnace and contact service.



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EHP LARSON 073966

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EHP LARSON 073967

## User's Information

**Limited Warranty**  
**High Efficiency Induced Draft Gas Furnace**  
**UD-C, DD-C, UD-R, DD-R, UD-RV and DD-RV**  
(Not Intended for Use in "A" or "B" Climate Zones)

This limited warranty is extended by American Standard Inc., to the original purchaser and to any succeeding owner of this real property to which the Gas Furnace is originally affixed, and applies to products purchased and installed for use within the U.S.A. and Canada.

If any part of your Gas Furnace fails because of a manufacturing defect within five years from the date of the original purchase, Warranty will furnish without charge the required replacement part. Any local transportation, related service labor, or other charges are not included.

In addition, if the steel heat exchanger fails because of a manufacturing defect within five years from the date of original purchase, Warranty will furnish without charge a replacement heat exchanger. Any local transportation, related service labor, or other charges are not included.

This limited warranty does not cover failure of your gas furnace if it is damaged while in your possession, damage caused by unreasonable use of the gas furnace, or other damage from failure to properly maintain the gas furnace as set forth in the User and Care Manual (see Proper Maintenance section).

This limited warranty applies to product installed on or after 10/1/2001 where product is manufactured after 1/1/2002. This limited warranty is not retroactive to any installations prior to 10/1/2001 or on product produced prior to 2002.

THE LIMITED WARRANTY AND LIABILITY SET FORTH HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES AND LIABILITIES, WHETHER IN CONTRACT OR IN NEGLIGENCE, EXPRESS OR IMPLIED, IN LAW OR IN FACT, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR USE, AND IN NO EVENT SHALL WARRANTY BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Some states do not allow limitations on how long an implied limited warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Parts will be provided by our factory organization through an authorized service organization in your area listed in the yellow pages. If you wish further help or information concerning this limited warranty, contact:

American Standard Inc.  
Troy Highway  
Tyler, TX 75711-0010  
Attention: Manager, After Sales Support  
800-429-1802

\* This limited warranty is for residential usage of the equipment and not applicable when the equipment is used for a commercial application. A commercial user is any application where the purchaser uses the product for other than personal, family or household purposes.

Extended warranties are available from the manufacturer through your dealer. The limited warranty is backed by the manufacturer and any representation made about extending the limited warranty would be backed by the manufacturer if and only if an extended warranty agreement was received from the manufacturer.



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### User's Information

## Notes

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Appleton Standard Inn  
1830 Tenny Highway  
Tyler, TX 75702

For more information, visit  
your local library (library.org)

Since the manufacturer has a monopoly on the production of the product, it produces the good in a socially efficient and socially optimal quantity.

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